

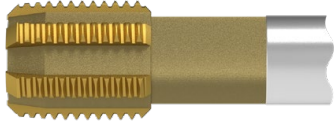
## New products for machining technicians

**NEW** HSS-E thread former with carbide strips



M

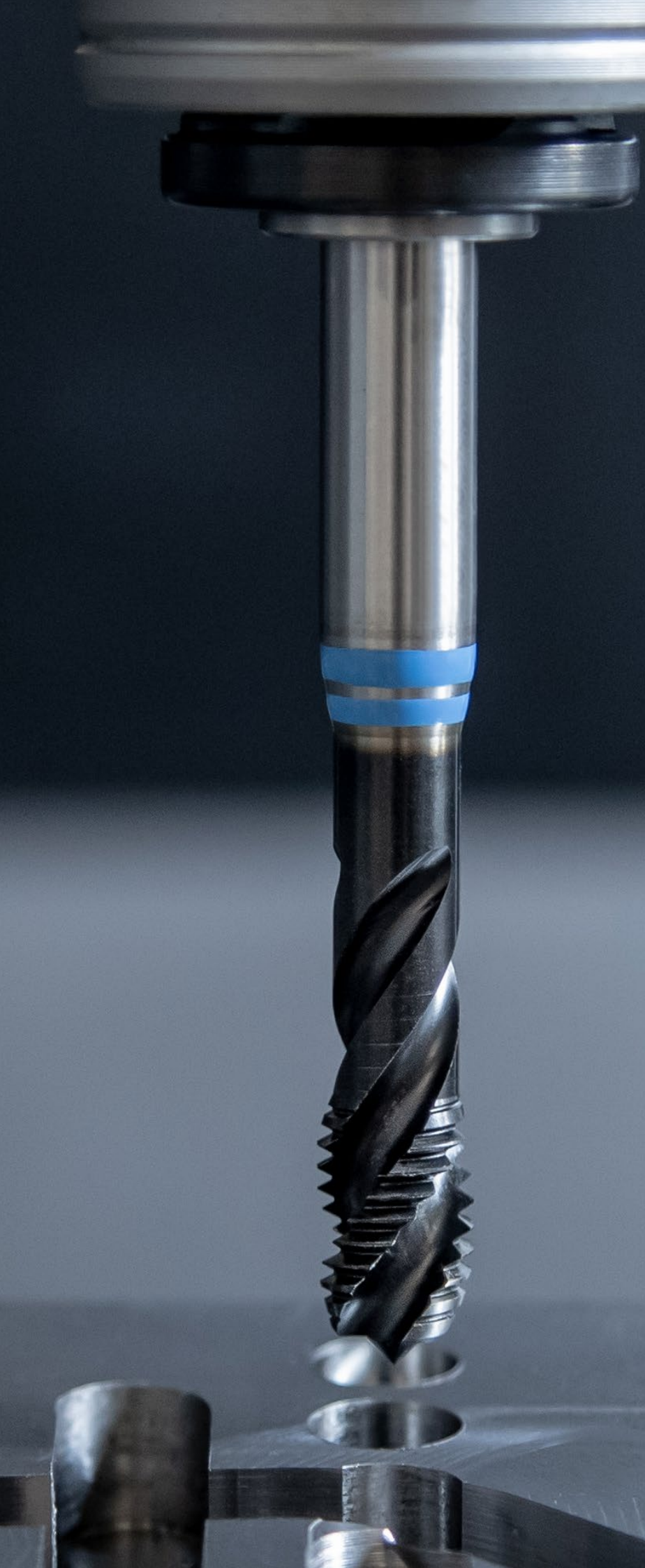
→ Page 52



MF

→ Page 73

- ▲ Maximised service life thanks to the innovative combination of the flexible HSS base support material and the wear-resistant, soldered-in carbide forming lobes
- ▲ Universal application in all ductile materials
- ▲ Reduction in tool costs



Solid drilling and bore machining

- 1 HSS drilling
- 2 Solid carbide drilling
- 3 Indexable insert drilling
- 4 Reaming and Countersinking
- 5 Spindle Tooling

Threading

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Turning

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## WNT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **WNT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

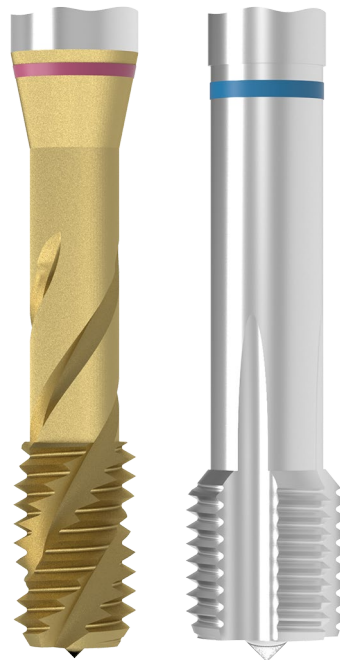
## WNT \ Standard

Quality tools for standard applications.

The quality tools of the **WNT Standard** product line are high quality, powerful and reliable and enjoy the highest trust of our customers worldwide. Tools from this product line are the first choice for many standard applications and guarantee optimal results.

## Symbol explanation

|                                                                                     |                                                                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>M</b>                                                                            | Thread type<br>Explanation of the thread types can be found on → <b>Page 6</b> .                                                      |
| <b>UNI<br/>NCW</b>                                                                  | Application range<br>Special feature<br>An explanation of the areas of application/special features can be found on → <b>Page 7</b> . |
| <b>C</b><br>2-3                                                                     | Chamfer form<br>An explanation of the chamfer forms can be found on → <b>Page 6</b> .                                                 |
| <b>ISO 2<br/>6H</b>                                                                 | Tolerance<br>Explanation of the tolerances can be found on → <b>Page 105</b> .                                                        |
| <b>TiN</b>                                                                          | Coating<br>An explanation of the coatings can be found on → <b>Page 108</b> .                                                         |
|  | Cooling agent supply                                                                                                                  |



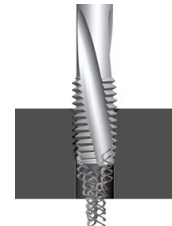
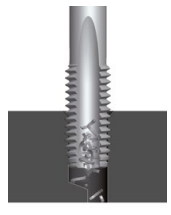
|                                                                                                |                                                                                            |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Coloured ring</b><br>An explanation of the coloured rings can be found on → <b>Page 5</b> . |                                                                                            |
| <b>HSS-E</b>                                                                                   | Tool Material<br>An explanation of the cutting materials can be found on → <b>Page 6</b> . |
| <b>FHA 42°</b>                                                                                 | Helix angle                                                                                |
| $\leq 1100 \text{ N/mm}^2$                                                                     | Tensile strength                                                                           |
|           | Through hole thread                                                                        |
|           | Blind hole thread                                                                          |
|           | Through hole thread and blind hole thread                                                  |



The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type! The values indicated represent possible cutting data which may need to be corrected depending on operating conditions !



## Tool types

|                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <b>Through hole tap type TruTap</b> <ul style="list-style-type: none"> <li>▲ For through holes up to 4xD</li> <li>▲ Lead Form B: 3.5–5 cutting leads, with spiral point</li> <li>▲ Straight Flutes</li> <li>▲ Also suitable for synchronised machining, with Weldon flat and with extra long version</li> <li>▲ Due to the special geometry of the flutes, the chips are removed in the direction of cut</li> </ul>                                                                                                         |      | <b>Through hole tap type TruTap DL</b> <ul style="list-style-type: none"> <li>▲ For through holes up to 4xD</li> <li>▲ Lead Form C: 3.5–5 cutting leads, without spiral point</li> <li>▲ 15° left hand helix</li> <li>▲ Suitable for steel, titanium alloys and Inconel 718</li> <li>▲ The chips are discharged in the direction of cut</li> </ul>                                                                                                                                                                                           |
|      | <b>Blind hole tap type CavTap</b> <ul style="list-style-type: none"> <li>▲ For blind holes up to 3xD</li> <li>▲ Lead Form C: 2–3 cutting leads, without spiral point</li> <li>▲ Lead Form E: 1.5–2 cutting leads, without spiral point</li> <li>▲ (35°, 42°, 45°, 50°) right hand helix</li> <li>▲ Also suitable for synchronised machining, with Weldon flat, with extra long version and through coolant</li> <li>▲ The high helix angle ensures chips are discharged effectively against the direction of cut</li> </ul> |      | <b>Blind hole tap type CavTap SL</b> <ul style="list-style-type: none"> <li>▲ For blind holes up to 2xD</li> <li>▲ Lead Form C: 2–3 cutting leads, without spiral point</li> <li>▲ Lead Form E: 1.5–2 cutting leads, without spiral point</li> <li>▲ (15°, 25°, 30°) slow right hand helix</li> <li>▲ For steel, titanium alloys and Inconel 718</li> <li>▲ Also suitable for synchronised machining, with extra long version and through coolant</li> <li>▲ Also suitable for difficult operating conditions such as cross holes</li> </ul> |
|   | <b>Through and blind hole tap Type DuoTap</b> <ul style="list-style-type: none"> <li>▲ For blind and through holes up to 2xD</li> <li>▲ Lead Form C: 2–3 cutting leads, without spiral point</li> <li>▲ Lead Form D: 3.5–5 cutting leads, without spiral point</li> <li>▲ Lead Form E: 1.5–2 cutting leads, without spiral point</li> <li>▲ Straight Flutes</li> <li>▲ For steel, short chipping and hardened materials to 55 (62) HRC</li> <li>▲ Also with extra long version and through coolant</li> </ul>               |   | <b>Thread former type DuoForm</b> <ul style="list-style-type: none"> <li>▲ For blind and through holes up to 3xD</li> <li>▲ Lead Form C: 2–3 cutting leads, without spiral point</li> <li>▲ For cold formable materials up to 1400 N/mm<sup>2</sup></li> <li>▲ Suitable for synchronised machining, with lubrication grooves and internal cooling</li> </ul>                                                                                                                                                                                 |

## Coloured rings

|                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>ST</b></p> <p>for steel up to 750 N/mm<sup>2</sup></p> <p>ST application area: uncoated taps for steels up to a tensile strength of 750 N/mm<sup>2</sup></p>                                                                                                          |  <p><b>VA</b></p> <p>for corrosion and acid-resistant steels</p> <p>VA application area: for stainless steels</p>                                                                                                                          |  <p><b>HT</b></p> <p>for hardened steels</p> <p>HT application area: for hard machining</p>                                                                                                                                                                                                                                                                                          |
|  <p><b>ST</b></p> <p>for steel to 1100 N/mm<sup>2</sup></p> <p>ST and VG application area: coated taps for steels up to a tensile strength of 1100 N/mm<sup>2</sup></p>  <p><b>VG</b></p> |  <p><b>Ti</b></p> <p>for heat resistant alloys</p> <p>Ti and Ni application area: for heat-resistant steels, titanium and Inconel</p>  <p><b>Ni</b></p> |  <p><b>NW</b></p> <p>for aluminium and non-ferrous metal</p> <p>NW, Soft, Ms and AMPCO application area: for aluminium, short-chipping brass and soft materials</p>  <p><b>Soft</b></p>  <p><b>AMPCO</b></p> |
|  <p><b>HR</b></p> <p>for steel up to 1400 N/mm<sup>2</sup></p> <p>HR application area: for steels up to a tensile strength of 1400 N/mm<sup>2</sup></p>                                                                                                                      |  <p><b>GG</b></p> <p>for cast iron materials</p> <p>GG application area: for cast iron materials</p>                                                                                                                                       |  <p><b>UNI</b></p> <p>for universal application up to 1100 N/mm<sup>2</sup></p> <p>UNI application area: for universal application</p>                                                                                                                                                                                                                                               |



A detailed explanation of the areas of application can be found on → **Page 7**.

## Thread types

|               |                                                         |
|---------------|---------------------------------------------------------|
| <b>M</b>      | ISO metric coarse thread DIN 13                         |
| <b>MF</b>     | ISO Metric fine thread DIN 13                           |
| <b>G</b>      | Whitworth pipe thread DIN EN ISO 228                    |
| <b>UNC</b>    | Unified coarse thread ASME B1.15 and ISO 3161           |
| <b>UNF</b>    | Unified fine thread ASME B1.1                           |
| <b>EG M</b>   | ISO Metric coarse thread for wire inserts DIN 8140-2    |
| <b>EG UNC</b> | EG Unified coarse thread for wire inserts ASME B18.29.1 |
| <b>EG UNF</b> | EG Unified fine thread for wire inserts ASME B18.29.1   |

|             |                                                                     |
|-------------|---------------------------------------------------------------------|
| <b>UNJC</b> | Unified coarse thread ASME B1.15 and ISO 3161                       |
| <b>UNJF</b> | Unified extra fine thread ASME B1.15 and ISO 3161                   |
| <b>BSW</b>  | Whitworth thread BS84                                               |
| <b>NPT</b>  | American taper pipe thread with sealing (1:16)<br>ANSI/ASME B1.20.1 |
| <b>NPTF</b> | American taper pipe thread with sealing (1:16)<br>ANSI/ASME B1.20.3 |
| <b>Rc</b>   | Whitworth taper pipe thread (1:16) DIN EN 10226-2<br>(ISO7-1)       |
| <b>Rp</b>   | Cylindrical Whitworth coarse thread DIN EN 10226-1<br>(ISO7-1)      |



These thread types, as well as hand taps and dies, are available in the online shop.

## Chamfer forms

|                   |                                                     |
|-------------------|-----------------------------------------------------|
| <b>B</b><br>4-5   | Form B<br>(with spiral point, 4-5 thread lead)      |
| <b>C</b><br>2-3   | Form C<br>(without spiral point, 2-3 thread lead)   |
| <b>D</b><br>4-5   | Form D<br>(without spiral point, 4-5 thread lead)   |
| <b>E</b><br>1,5-2 | Form E<br>(without spiral point, 1,5-2 thread lead) |

## Cutting materials

|                      |                                                           |
|----------------------|-----------------------------------------------------------|
| <b>HSS</b>           | High-speed steel                                          |
| <b>HSS-E</b>         | High-performance high speed steel                         |
| <b>HSS-E / HM</b>    | HSS-E base support material<br>cutting/forming medium: HM |
| <b>HSS-PM</b>        | High-performance sintered high-speed steel                |
| <b>Solid carbide</b> | Solid carbide                                             |

**CERATIZIT**  
CORE HOLE DIAMETERS

**THREAD CUTTING**  
METRIC ISO THREADS  
AMERICAN THREADS  
BRITISH THREADS

**THREAD FORMING TAPS**  
METRIC ISO THREADS  
AMERICAN THREADS  
BRITISH THREADS

**TAPS FOR WIRE INSERTS (HELICOL)**  
METRIC WIRE INSERT TAPS  
AMERICAN WIRE INSERT TAPS

**LEGEND**

**TECHNICAL DATA**  
CERATIZIT  
KOMET  
HARDY

A must-have for your production processes!

**Thread core hole diameters at a glance thanks to the CERATIZIT workshop poster!**

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## Application areas

| WNT \ Performance |                                                                      | WNT \ Standard                                                      |                                                                                              |
|-------------------|----------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>UNI</b>        | for universal application up to 1100 N/mm <sup>2</sup>               | <b>UNI</b>                                                          | for universal application up to 1000 N/mm <sup>2</sup>                                       |
| <b>ST</b>         | for good quality free machining steel                                | <b>FE</b>                                                           | for steel to 850 N/mm <sup>2</sup>                                                           |
| <b>FE</b>         | Dies for steel                                                       | <b>FE-HF</b>                                                        | for high-tensile steel to 1100 N/mm <sup>2</sup>                                             |
| <b>VG</b>         | for tempered and heat-resistant steels < 1100 N/mm <sup>2</sup>      | <b>VA</b>                                                           | for corrosion and acid-resistant steels                                                      |
| <b>HR</b>         | for high-tensile steels < 1400 N/mm <sup>2</sup>                     | <b>GG</b>                                                           | for cast iron                                                                                |
| <b>VA</b>         | for stainless and acid-resistant steels up to 1100 N/mm <sup>2</sup> | <b>AL</b>                                                           | for aluminium and aluminium alloys                                                           |
| <b>GG</b>         | for cast iron                                                        |                                                                     |                                                                                              |
| <b>NW</b>         | For aluminium                                                        |                                                                     |                                                                                              |
| <b>Soft</b>       | For soft materials                                                   |                                                                     |                                                                                              |
| <b>Ms</b>         | for short chipping brass                                             |                                                                     |                                                                                              |
| <b>AMPCO</b>      | For Ampco alloys                                                     |                                                                     |                                                                                              |
| <b>Ti</b>         | For titanium and titanium alloys                                     |                                                                     |                                                                                              |
| <b>Ni</b>         | special for Inconel 718                                              |                                                                     |                                                                                              |
| <b>HT</b>         | for hardened steel and chilled iron up to 55 HRc                     |                                                                     |                                                                                              |
|                   |                                                                      | <b>EC</b>                                                           | DuoForm thread former for universal use                                                      |
|                   |                                                                      | <b>NEO</b>                                                          | DuoForm thread former for heat-resistant alloys                                              |
|                   |                                                                      | <b>ERGO</b>                                                         | Hand Taps for stainless, heat-resistant and heat-treated steels up to 1100 N/mm <sup>2</sup> |
|                   |                                                                      | <b>ERGO F.T</b>                                                     | Hand tap for steel up to 1400 N/mm <sup>2</sup> , wolfram, chilled iron                      |
|                   |                                                                      | Tools for these application areas are available in the online shop. |                                                                                              |

## Special Features

|            |                                                                       |                        |                                                                                   |
|------------|-----------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------|
| <b>AUT</b> | short version for automatic use                                       | <b>MMB</b>             | Machine taps                                                                      |
| <b>AZ</b>  | with intermittent teeth, reduces friction                             | <b>NC</b>              | for synchronised CNC machining with minimum length compensation chuck             |
| <b>CNC</b> | for synchronised CNC machining with minimum length compensation chuck | <b>NCW</b>             | with Weldon flat for synchronised CNC machining without length compensation chuck |
| <b>DRY</b> | for dry machining or minimum quantity lubrication (MMS)               | <b>R<sub>z</sub>=1</b> | Lapped Dies                                                                       |
| <b>EL</b>  | extra long, with double overall length                                | <b>S</b>               | with back taper, for deep threads                                                 |
| <b>ES</b>  | extra short                                                           | <b>SN</b>              | Thread formers with lubrication grooves                                           |
| <b>HML</b> | with soldered-in carbide strips for a higher cutting speed            | <b>TS</b>              | for high-speed machining, up to 100 m/min.                                        |
| <b>LH</b>  | for left hand threads                                                 |                        |                                                                                   |

## Toolfinder

## Thread formers

|     |                             | Machining                                                                         | Application range | WNT \ Standard |    |   |     |     |
|-----|-----------------------------|-----------------------------------------------------------------------------------|-------------------|----------------|----|---|-----|-----|
|     |                             |                                                                                   |                   | M              | MF | G | UNC | UNF |
| UNI | for cold-formable materials |  | UNI               | 55             | 74 |   |     |     |

## HSS taps

|     |                                                                                                                                     |                                                                                     |       |       |       |    |    |                                                                                                               |
|-----|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|-------|-------|----|----|---------------------------------------------------------------------------------------------------------------|
| UNI | for universal use<br>up to 1000 N/mm <sup>2</sup> <b>WNT Standard</b><br>up to 1100 N/mm <sup>2</sup> <b>WNT Performance</b>        |    | UNI   | 26+27 | 60+61 | 76 | 83 | 91                                                                                                            |
|     |                                                                                                                                     |    | UNI   | 43+44 | 67    | 79 | 85 | 94                                                                                                            |
| P   | for steels<br>up to 850 N/mm <sup>2</sup> <b>WNT Standard</b><br>up to 1100 N/mm <sup>2</sup> <b>WNT Performance</b>                |    | FE    | 27    | 61    |    |    |                                                                                                               |
|     |                                                                                                                                     |    | FE    | 44    | 68    |    |    | 23 282...<br>23 283...<br> |
|     |                                                                                                                                     |    |       |       |       |    |    |                                                                                                               |
| P   | for high-strength steels<br>up to 1100 N/mm <sup>2</sup> <b>WNT Standard</b><br>up to 1400 N/mm <sup>2</sup> <b>WNT Performance</b> |    | FE-HF | 27    |       |    | 83 |                                                                                                               |
|     |                                                                                                                                     |   | FE-HF | 44    |       |    | 85 |                                                                                                               |
|     |                                                                                                                                     |  |       |       |       |    |    |                                                                                                               |
| M   | for corrosion and acid-resistant steels                                                                                             |  | VA    | 28    | 61    |    | 83 |                                                                                                               |
|     |                                                                                                                                     |  | VA    | 44+45 | 69    |    | 85 | 94                                                                                                            |
| K   | for cast iron materials                                                                                                             |  | GG    | 51    |       |    |    |                                                                                                               |
| N   | for aluminium and non-ferrous metal                                                                                                 |  | AL    | 28    |       |    |    |                                                                                                               |
|     |                                                                                                                                     |  | AL    | 45    |       |    |    |                                                                                                               |
|     |                                                                                                                                     |  |       |       |       |    |    |                                                                                                               |
| S   | for heat-resistant materials                                                                                                        |  |       |       |       |    |    |                                                                                                               |
|     |                                                                                                                                     |  |       |       |       |    |    |                                                                                                               |
| H   | Hard materials                                                                                                                      |  |       |       |       |    |    |                                                                                                               |

For tools for other applications, refer to the taps overview on → **Pages 10–15.**This article can be found in our online shop at [cuttingtools.ceratizit.com](https://cuttingtools.ceratizit.com)

| WNT \ Performance |                   |       |      |       |       |                |        |      |     |        |                |                             |     |                             |                |                |
|-------------------|-------------------|-------|------|-------|-------|----------------|--------|------|-----|--------|----------------|-----------------------------|-----|-----------------------------|----------------|----------------|
| Tool type         | Application range | M     | EG M | MF    | G     | UNC            | EG UNC | UNJC | UNF | EG UNF | UNJF           | BSW                         | NPT | NPTF                        | Rp             | Rc             |
| DuoForm           | EC                | 52+53 |      | 73    | 81    | 86             |        |      | 95  |        |                |                             |     |                             |                |                |
| TruTap            | UNI               | 16–18 | 56   | 58+59 | 75    | 82             | 87     |      | 90  | 96     |                | 22 626...<br>22 627...<br>↓ |     |                             |                |                |
| CavTap            | UNI               | 29–32 | 57   | 62+63 | 77+78 | 84             | 88     |      | 92  | 97     |                | 22 628...<br>22 629...<br>↓ |     |                             |                |                |
| TruTap            | ST                | 19+20 |      | 59    | 75    |                |        |      |     |        |                |                             |     |                             |                |                |
| CavTap            | ST                | 34+35 |      | 64+65 | 78    |                |        |      |     |        |                |                             |     |                             |                |                |
| DuoTap            | ST                | 46+47 |      | 71+72 | 80    |                |        |      |     |        |                |                             | 100 | 22 367...<br>22 382...<br>↓ | 22 381...<br>↓ | 22 389...<br>↓ |
| TruTap            | HR                | 20    |      |       |       |                |        |      |     |        |                |                             |     |                             |                |                |
| CavTap            | HR                | 35    |      |       |       |                |        |      |     |        |                |                             |     |                             |                |                |
| DuoTap            | HR                | 46+47 |      | 70+71 | 80    |                |        |      |     |        |                |                             |     |                             |                |                |
| TruTap            | VA                | 21    |      |       | 75    | 82             |        |      |     |        |                |                             |     |                             |                |                |
| CavTap            | VA                | 36    |      | 66    | 78    | 84             |        |      | 92  |        |                |                             | 98  |                             |                |                |
| DuoTap            | GG                | 48    |      | 71    |       |                |        |      |     |        |                |                             |     |                             |                |                |
| TruTap            | NW                | 21    |      | 59    | 75    |                |        |      |     |        |                |                             |     |                             |                |                |
| CavTap            | NW                | 37    |      | 66    | 78    |                |        |      |     |        |                |                             |     |                             |                |                |
| DuoTap            | AMPCO             | 46+47 |      |       |       |                |        |      |     |        |                |                             |     |                             |                |                |
| TruTap            | Ti                | 22    |      |       |       | 82             |        |      |     |        | 22 167...<br>↓ |                             |     |                             |                |                |
| CavTap SL         | Ti                | 38    |      |       |       | 22 262...<br>↓ |        | 89   | 93  |        | 22 168...<br>↓ |                             |     |                             |                |                |
| DuoTap            | HT                | 49    |      | 70    |       |                |        |      |     |        |                |                             |     |                             |                |                |

 Shank extensions for taps can be found on → **Page 101.**

 Thread-cutting oils can be found in our online shop at [cuttingtools.ceratizit.com](https://cuttingtools.ceratizit.com)



## Taps Overview

| Application Area /<br>Special Features                                              | Tool type                         | Chamfer form | Tolerance                       | Tool Material   | coated<br>uncoated | Coolant | WNT \ Performance    | WNT \ Standard |
|-------------------------------------------------------------------------------------|-----------------------------------|--------------|---------------------------------|-----------------|--------------------|---------|----------------------|----------------|
| <b>M</b>                                                                            | <b>Metric ISO standard thread</b> |              |                                 |                 |                    |         |                      |                |
|    | <b>UNI – Through hole thread</b>  |              |                                 |                 |                    |         |                      |                |
| UNI                                                                                 | TruTap                            | B<br>4-5     | ISO 2 6H<br>ISO 3 6G<br>7G      | HSS-E           | ■                  |         | 16+17                |                |
| UNI<br>CNC                                                                          | TruTap                            | B<br>4-5     | ISO 2X 6HX<br>ISO 3X 6GX<br>7GX | HSS-E           | ■                  |         | 18                   |                |
| UNI<br>NCW                                                                          | TruTap                            | B<br>4-5     | ISO 2 6H                        | HSS-PM          | ■                  |         | 18                   |                |
| UNI<br>EL                                                                           | TruTap                            | B<br>4-5     | ISO 2 6H                        | HSS-E           | ■                  |         | 24                   |                |
| UNI                                                                                 |                                   | B<br>4-5     | ISO 2 6H                        | HSS-E<br>HSS-PM | ■                  |         | 26                   |                |
| UNI<br>NC                                                                           |                                   | B<br>4-5     | ISO 2 6H                        | HSS-E           | ■                  |         | 27                   |                |
| UNI<br>NCW                                                                          |                                   | B<br>4-5     | ISO 2 6H                        | HSS-PM          | ■                  |         | 27                   |                |
|  | <b>UNI – Blind hole thread</b>    |              |                                 |                 |                    |         |                      |                |
| UNI                                                                                 | CavTap                            | C<br>2-3     | ISO 2 6H<br>7G                  | HSS-E           | ■                  |         | 29                   |                |
| UNI                                                                                 | CavTap                            | E<br>1,5-2   | ISO 2 6H                        | HSS-E           | ■                  | 💧       | 30                   |                |
| UNI                                                                                 |                                   | C<br>2-3     | ISO 2 6H                        | HSS-E<br>HSS-PM | ■                  |         | 43                   |                |
| UNI<br>NC                                                                           |                                   | C<br>2-3     | ISO 2 6H                        | HSS-E           | ■                  |         | 43                   |                |
| UNI<br>NCW                                                                          | CavTap                            | C<br>2-3     | ISO 2 6H                        | HSS-PM          | ■                  |         | 30                   |                |
| UNI<br>NCW                                                                          |                                   | C<br>2-3     | ISO 2 6H                        | HSS-PM          | ■                  |         | 44                   |                |
| UNI<br>CNC                                                                          | CavTap                            | C<br>2-3     | ISO 2X 6HX<br>ISO 2 6H<br>7G    | HSS-E           | ■                  |         | 31                   |                |
| UNI<br>CNC                                                                          | CavTap                            | E<br>1,5-2   | ISO 2 6H                        | HSS-E           | ■                  | 💧       | 31                   |                |
| UNI<br>CNC                                                                          | CavTap                            | C<br>2-3     | ISO 3 6G                        | HSS-E           | ■                  |         | 22 588..., 22 589... |                |
| UNI<br>DRY                                                                          | CavTap                            | C<br>2-3     | ISO 2 6H                        | HSS-E           | ■                  | 💧       | 32                   |                |
| UNI                                                                                 | CavTap                            | C<br>2-3     | ISO 1 4H                        | HSS-E           | ■                  |         | 22 528...            |                |
| UNI                                                                                 | CavTap                            | E<br>1,5-2   | ISO 3 6G                        | HSS-E           | ■                  |         | 22 530...            |                |
| UNI<br>S                                                                            | CavTap                            | C<br>2-3     | ISO 2 6H                        | HSS-E           | ■                  |         | 22 536..., 22 537... |                |
| UNI<br>ES                                                                           | CavTap                            | E<br>1,5-2   | ISO 2 6H                        | HSS-E           | ■                  |         | 39                   |                |
| UNI<br>EL                                                                           | CavTap                            | C<br>2-3     | ISO 2 6H                        | HSS-E           | ■                  |         | 41                   |                |
| UNI                                                                                 | CavTap SL                         | C<br>2-3     | ISO 2 6H                        | HSS-E           | □                  |         | 22 516...            |                |

| Application Area /<br>Special Features                                              | Tool type                         | Chamfer form | Tolerance  | Tool Material | coated<br>uncoated | Coolant | WNT \ Performance    | WNT \ Standard |
|-------------------------------------------------------------------------------------|-----------------------------------|--------------|------------|---------------|--------------------|---------|----------------------|----------------|
| <b>M</b>                                                                            | <b>Metric ISO standard thread</b> |              |            |               |                    |         |                      |                |
|    | <b>P – Through hole thread</b>    |              |            |               |                    |         |                      |                |
| ST                                                                                  | TruTap                            | B<br>4-5     | ISO 2 6H   | HSS-E         | □                  |         | 19                   |                |
| ST<br>LH                                                                            | TruTap                            | B<br>4-5     | ISO 2 6H   | HSS-E         | □                  |         | 19                   |                |
| ST                                                                                  | TruTap                            | B<br>4-5     | ISO 1 4H   | HSS-E         | □                  |         | 22 002..., 22 003... |                |
| ST                                                                                  | TruTap                            | B<br>4-5     | ISO 3 6G   | HSS-E         | □                  |         | 22 004...            |                |
| ST<br>TS                                                                            | TruTap                            | B<br>4-5     | ISO 2X 6HX | HSS-E         | ■                  |         | 20                   |                |
| HR                                                                                  | TruTap                            | B<br>4-5     | ISO 2X 6HX | HSS-PM        | ■                  |         | 20                   |                |
| VG                                                                                  | TruTap                            | B<br>4-5     | ISO 2X 6HX | HSS-E         | ■                  |         | 20                   |                |
| ST<br>EL                                                                            | TruTap                            | B<br>4-5     | ISO 2 6H   | HSS-E         | □                  |         | 24                   |                |
| ST<br>MMB                                                                           |                                   | ≈ 20         | ISO 2 6H   | HSS-E         | □                  |         | 25                   |                |
| FE                                                                                  |                                   | B<br>4-5     | ISO 2 6H   | HSS-E         | □                  |         | 27                   |                |
| FE-HF                                                                               |                                   | B<br>4-5     | ISO 2 6H   | HSS-E         | ■                  |         | 27                   |                |
|  | <b>P – Blind hole thread</b>      |              |            |               |                    |         |                      |                |
| ST                                                                                  | CavTap                            | C<br>2-3     | ISO 2 6H   | HSS-E         | ■□                 |         | 34                   |                |
| ST                                                                                  | CavTap                            | C<br>2-3     | ISO 3 6G   | HSS-E         | □                  |         | 22 134..., 22 135... |                |
| ST<br>CNC                                                                           | CavTap SL                         | C<br>2-3     | ISO 2X 6HX | HSS-E         | ■                  | 💧       | 33                   |                |
| ST<br>TS                                                                            | CavTap SL                         | C<br>2-3     | ISO 2X 6HX | HSS-E         | ■                  |         | 33                   |                |
| ST<br>ES                                                                            | CavTap SL                         | C<br>2-3     | ISO 2 6H   | HSS-E         | □                  |         | 40                   |                |
| ST<br>EL                                                                            | CavTap                            | C<br>2-3     | ISO 2 6H   | HSS-E         | □                  |         | 41                   |                |
| ST<br>EL                                                                            | CavTap SL                         | E<br>1,5-2   | ISO 2 6H   | HSS-E         | □                  |         | 42                   |                |
| ST<br>LH                                                                            | CavTap                            | C<br>2-3     | ISO 2 6H   | HSS-E         | □                  |         | 34                   |                |
| ST<br>TS                                                                            | CavTap                            | C<br>2-3     | ISO 2 6H   | HSS-E         | ■                  | 💧       | 35                   |                |
| HR                                                                                  | CavTap SL                         | C<br>2-3     | ISO 2 6H   | HSS-PM        | ■                  |         | 33                   |                |
| HR                                                                                  | CavTap                            | C<br>2-3     | ISO 2 6H   | HSS-PM        | ■□                 |         | 35                   |                |

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## Taps Overview

| Application Area /<br>Special Features | Tool type                                            | Chamfer form | Tolerance  | Tool Material   | coated<br>□<br>uncoated<br>■ | Coolant<br>Coolant | WNT / Performance | WNT / Standard       |
|----------------------------------------|------------------------------------------------------|--------------|------------|-----------------|------------------------------|--------------------|-------------------|----------------------|
| <b>M</b>                               | <b>Metric ISO standard thread</b>                    |              |            |                 |                              |                    |                   |                      |
| FE                                     |                                                      |              | ISO 2 6H   | HSS-E           | □                            |                    |                   | 44                   |
| FE-HF                                  |                                                      |              | ISO 2 6H   | HSS-E           | ■                            |                    |                   | 44                   |
|                                        | <b>P – Blind hole thread</b>                         |              |            |                 |                              |                    |                   |                      |
| ST                                     | DuoTap                                               |              | ISO 2X 6HX | HSS-E           | □                            |                    |                   | 46+47                |
| ST<br>AZ                               | DuoTap                                               |              | ISO 2X 6HX | HSS-E           | □                            |                    |                   | 22 111..., 22 113... |
| HR                                     | DuoTap                                               |              | ISO 2X 6HX | HSS-E           | ■                            |                    |                   | 46+47                |
| HR<br>EL                               | DuoTap                                               |              | ISO 2X 6HX | HSS-E           | ■                            |                    |                   | 50                   |
|                                        | <b>M – Through hole thread</b>                       |              |            |                 |                              |                    |                   |                      |
| VA                                     | TruTap                                               |              | ISO 2 6H   | HSS-E           | ■                            |                    |                   | 21                   |
| VA                                     |                                                      |              | ISO 2 6H   | HSS-PM<br>HSS-E | ■                            |                    |                   | 28                   |
|                                        | <b>M – Blind hole thread</b>                         |              |            |                 |                              |                    |                   |                      |
| VA                                     | CavTap                                               |              | ISO 2 6H   | HSS-E           | ■                            |                    |                   | 36                   |
| VA                                     | CavTap                                               |              | ISO 2 6H   | HSS-E           | ■                            | Coolant            |                   | 36                   |
| VA                                     |                                                      |              | ISO 2 6H   | HSS-E<br>HSS-PM | ■ □                          |                    |                   | 44+45                |
|                                        | <b>K – Through hole thread and blind hole thread</b> |              |            |                 |                              |                    |                   |                      |
| GG                                     | DuoTap                                               |              | ISO 2X 6HX | HSS-E           | ■                            | Coolant            |                   | 48                   |
| GG                                     |                                                      |              | ISO 2X 6HX | HSS-E           | ■                            |                    |                   | 51                   |
|                                        | <b>N – Through hole thread</b>                       |              |            |                 |                              |                    |                   |                      |
| NW                                     | TruTap                                               |              | ISO 2 6H   | HSS-E           | ■                            |                    |                   | 21                   |
| Soft                                   | TruTap                                               |              | ISO 2 6H   | HSS-E           | ■                            |                    |                   | 22 305...            |
| AL                                     |                                                      |              | ISO 2 6H   | HSS-E           | ■ □                          |                    |                   | 28                   |
|                                        | <b>N – Blind hole thread</b>                         |              |            |                 |                              |                    |                   |                      |
| Soft                                   | CavTap                                               |              | ISO 2 6H   | HSS-E           | ■ □                          |                    |                   | 37                   |
| NW                                     | CavTap                                               |              | ISO 2 6H   | HSS-E           | ■                            |                    |                   | 37                   |
| AL                                     |                                                      |              | ISO 2 6H   | HSS-E           | ■ □                          |                    |                   | 45                   |

| Application Area /<br>Special Features | Tool type                                            | Chamfer form | Tolerance                | Tool Material | coated<br>■<br>uncoated<br>□ | Coolant<br>Coolant | WNT / Performance | WNT / Standard |
|----------------------------------------|------------------------------------------------------|--------------|--------------------------|---------------|------------------------------|--------------------|-------------------|----------------|
| <b>M</b>                               | <b>Metric ISO standard thread</b>                    |              |                          |               |                              |                    |                   |                |
|                                        | <b>N – Through hole thread and blind hole thread</b> |              |                          |               |                              |                    |                   |                |
| AMPCO                                  | DuoTap                                               |              | ISO 2X 6HX               | HSS-PM        | □                            |                    |                   | 46+47          |
| Ms                                     | DuoTap                                               |              | ISO 2X 6HX               | HSS-E         | □                            |                    |                   | 22 119...      |
|                                        | <b>S – Through hole thread</b>                       |              |                          |               |                              |                    |                   |                |
| Ti                                     | TruTap                                               |              | ISO 1X 4HX<br>ISO 2X 6HX | HSS-PM        | ■                            |                    |                   | 22             |
| Ti                                     | TruTap<br>DL                                         |              | ISO 2X 6HX               | HSS-E         | ■                            |                    |                   | 23             |
| Ni                                     | TruTap<br>DL                                         |              | ISO 2X 6HX               | HSS-E         | ■                            |                    |                   | 23             |
|                                        | <b>S – Blind hole thread</b>                         |              |                          |               |                              |                    |                   |                |
| Ti                                     | CavTap<br>SL                                         |              | ISO 2X 6HX               | HSS-PM        | ■                            |                    |                   | 38             |
| Ni                                     | CavTap<br>SL                                         |              | ISO 2X 6HX               | HSS-PM        | ■                            |                    |                   | 38             |
|                                        | <b>H – Through hole thread and blind hole thread</b> |              |                          |               |                              |                    |                   |                |
| HT                                     | DuoTap                                               |              | ISO 2X 6HX               | VHM           | ■                            |                    |                   | 49             |
| HT                                     | DuoTap                                               |              | ISO 2X 6HX               | HSS-PM        | ■                            |                    |                   | 49             |
|                                        | <b>Machine thread formers</b>                        |              |                          |               |                              |                    |                   |                |
| EC                                     | DuoForm                                              |              | ISO 2X 6HX               | HSS-E         | ■                            |                    |                   | 52             |
| EC<br>SN                               | DuoForm                                              |              | ISO 2X 6HX<br>ISO 3X 6GX | HSS-E         | ■                            |                    |                   | 53             |
| NW<br>HML                              | DuoForm                                              |              | ISO 2X 6HX               | HSS-E         | □                            | Coolant            |                   | 52             |
| NEO<br>SN                              | DuoForm                                              |              | ISO 2X 6HX               | HSS-PM        | ■                            | Coolant            |                   | 54             |
| UNI                                    |                                                      |              | ISO 2X 6HX               | HSS-E         | ■                            |                    |                   | 55             |
| UNI<br>SN                              |                                                      |              | ISO 2X 6HX               | HSS-E         | ■                            |                    |                   | 55             |
|                                        | <b>Hand taps</b>                                     |              |                          |               |                              |                    |                   |                |
| ST                                     |                                                      |              | ISO 2X 6HX               | VHM           | □                            |                    |                   | 22 800...      |
| ST                                     |                                                      |              | ISO 2X 6HX               | HSS-E         | □                            |                    |                   | 22 010...      |
| ERGO                                   |                                                      |              | ISO 2X 6HX               | HSS-E         | □                            |                    |                   | 22 012...      |
| ERGO<br>F.T.                           |                                                      |              | ISO 2X 6HX               | HSS-E         | ■                            |                    |                   | 22 013...      |

## Taps Overview

| Application Area /<br>Special Features                                            | Tool type                                                                         | Chamfer form     | Tolerance | Tool Material | <div><div>■</div><div>□</div><div>🔹</div></div> <div>coated<br/>uncoated<br/>Coolant</div> | WNT / Performance                                                                                                                                                                              | WNT / Standard |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------|-----------|---------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| M                                                                                 | Metric ISO standard thread                                                        |                  |           |               |                                                                                            |                                                                                                                                                                                                |                |
|  | Dies                                                                              |                  |           |               |                                                                                            |                                                                                                                                                                                                |                |
| FE                                                                                |  | ISO 6g<br>ISO 6e | HSS       | □             |                                                                                            | 22 700..., 22 701...<br><br> |                |
| FE                                                                                |  | ISO 6g           | HSS       | □             |                                                                                            | 23 910...<br><br>            |                |
| FE<br>LH                                                                          |  | ISO 6g           | HSS       | □             |                                                                                            | 22 702...<br><br>            |                |
| VA                                                                                |  | ISO 6g           | HSS-E     | □             |                                                                                            | 22 704...<br><br>            |                |
| VA<br>R <sub>z</sub> =1                                                           |  | ISO 6g           | HSS-E     | □             |                                                                                            | 22 705...<br><br>            |                |

| EG M ISO metric coarse thread for wire inserts                                      |                           |                                                                                     |        |         |    |
|-------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|--------|---------|----|
|  | UNI – Through hole thread |                                                                                     |        |         |    |
| UNI                                                                                 | TruTap                    |  | 6H mod | HSS-E ■ | 56 |
|  | UNI – Blind hole thread   |                                                                                     |        |         |    |
| UNI                                                                                 | CavTap                    |  | 6H mod | HSS-E ■ | 57 |
|  | N – Blind hole thread     |                                                                                     |        |         |    |
| Soft                                                                                | CavTap                    |  | 6H mod | HSS-E ■ | 57 |

| Metric ISO fine thread                                                                                               |        |                                                                                     |                      |                 |   |                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|----------------------|-----------------|---|--------------------------------------------------------------------------------------------------|
|  <b>UNI – Through hole thread</b> |        |                                                                                     |                      |                 |   |                                                                                                  |
| UNI                                                                                                                  | TruTap |  | ISO 2 6H             | HSS-E           | ■ | 58+59                                                                                            |
| UNI                                                                                                                  | TruTap |  | ISO 3 6G             | HSS-E           | ■ | 22 599...<br> |
| UNI                                                                                                                  |        |  | ISO 2 6H             | HSS-PM<br>HSS-E | ■ | 60+61                                                                                            |
|  <b>UNI – Blind hole thread</b>   |        |                                                                                     |                      |                 |   |                                                                                                  |
| UNI                                                                                                                  | CavTap |  | ISO 2 6H<br>ISO 3 6G | HSS-E           | ■ | 62                                                                                               |
| UNI                                                                                                                  | CavTap |  | ISO 2 6H             | HSS-E           | ■ | 63                                                                                               |
| UNI                                                                                                                  |        |  | ISO 2 6H             | HSS-PM<br>HSS-E | ■ | 67+68                                                                                            |

| Application Area /<br>Special Features        | Tool type              | Chamfer form                                                                         | Tolerance      | Tool Material | coated<br>□<br>uncoated<br>■ | Coolant<br>💧 | WNT / Performance                                                                                  | WNT / Standard |
|-----------------------------------------------|------------------------|--------------------------------------------------------------------------------------|----------------|---------------|------------------------------|--------------|----------------------------------------------------------------------------------------------------|----------------|
| MF                                            | Metric ISO fine thread |                                                                                      |                |               |                              |              |                                                                                                    |                |
| UNI<br>CNC                                    | CavTap                 |    | ISO 3 6G       | HSS-E         | ■                            |              | 22 561...<br>   |                |
| UNI<br>CNC                                    | CavTap                 |    | ISO 2 6H<br>7G | HSS-E         | ■                            |              | 63                                                                                                 |                |
| UNI<br>NC                                     |                        |    | ISO 2 6H       | HSS-E         | ■                            |              |                                                                                                    | 68             |
| P – Through hole thread                       |                        |                                                                                      |                |               |                              |              |                                                                                                    |                |
| ST<br>TS                                      | TruTap                 |    | ISO 2X 6HX     | HSS-E         | ■                            |              | 59                                                                                                 |                |
| ST<br>LH                                      | TruTap                 |    | ISO 2 6H       | HSS-E         | □                            |              | 59                                                                                                 |                |
| FE                                            |                        |    | ISO 2 6H       | HSS-E         | □                            |              |                                                                                                    | 61             |
| P – Blind hole thread                         |                        |                                                                                      |                |               |                              |              |                                                                                                    |                |
| ST<br>TS                                      | CavTap                 |  | ISO 2 6H       | HSS-E         | ■                            |              | 22 216...<br> |                |
| ST<br>LH                                      | CavTap                 |  | ISO 2 6H       | HSS-E         | □                            |              | 64                                                                                                 |                |
| ST                                            | CavTap<br>SL           |  | ISO 2 6H       | HSS-E         | □                            |              | 65                                                                                                 |                |
| FE                                            |                        |  | ISO 2 6H       | HSS-E         | □                            |              |                                                                                                    | 68             |
| P – Through hole thread and blind hole thread |                        |                                                                                      |                |               |                              |              |                                                                                                    |                |
| ST                                            | DuoTap                 |  | ISO 2X 6HX     | HSS-E         | □                            |              | 70+71                                                                                              |                |
| ST<br>ES                                      | DuoTap                 |  | ISO 2X 6HX     | HSS-E         | □                            |              | 72                                                                                                 |                |
| ST<br>LH/ES                                   | DuoTap                 |  | ISO 2X 6HX     | HSS-E         | □                            |              | 72                                                                                                 |                |
| HR                                            | DuoTap                 |  | ISO 2X 6HX     | HSS-E         | ■                            |              | 70+71                                                                                              |                |
| M – Through hole thread                       |                        |                                                                                      |                |               |                              |              |                                                                                                    |                |
| VA                                            |                        |  | ISO 2 6H       | HSS-E         | ■                            |              |                                                                                                    | 61             |
| M – Blind hole thread                         |                        |                                                                                      |                |               |                              |              |                                                                                                    |                |
| VA                                            | CavTap                 |  | ISO 2 6H       | HSS-E         | ■                            |              | 66                                                                                                 |                |
| VA                                            |                        |  | ISO 2 6H       | HSS-E         | ■                            |              |                                                                                                    | 69             |
| K – Through hole thread and blind hole thread |                        |                                                                                      |                |               |                              |              |                                                                                                    |                |
| GG                                            | DuoTap                 |  | ISO 2X 6HX     | HSS-E         | ■                            |              | 71                                                                                                 |                |



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| Application Area /<br>Special Features                                              | Tool type                                            | Chamfer form                                                                        | Tolerance  | Tool Material | coated<br>uncoated | Coolant | WNT \ Performance | WNT \ Standard |
|-------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------|------------|---------------|--------------------|---------|-------------------|----------------|
| <b>MF</b>                                                                           | <b>Metric ISO fine thread</b>                        |                                                                                     |            |               |                    |         |                   |                |
|    | <b>N – Through hole thread</b>                       |                                                                                     |            |               |                    |         |                   |                |
| <b>NW</b>                                                                           | TruTap                                               |    | ISO 2 6H   | HSS-E         | ■                  |         | 59                |                |
|    | <b>N – Blind hole thread</b>                         |                                                                                     |            |               |                    |         |                   |                |
| <b>NW</b>                                                                           | CavTap                                               |    | ISO 2 6H   | HSS-E         | ■                  |         | 66                |                |
|    | <b>H – Through hole thread and blind hole thread</b> |                                                                                     |            |               |                    |         |                   |                |
| <b>HT</b>                                                                           | DuoTap                                               |    | ISO 2X 6HX | VHM           | ■                  |         | 70                |                |
|    | <b>Machine thread formers</b>                        |                                                                                     |            |               |                    |         |                   |                |
| <b>EC SN</b>                                                                        | DuoForm                                              |   | ISO 2X 6HX | HSS-E         | ■                  |         | 73                |                |
| <b>EC HML</b>                                                                       | DuoForm                                              |  | ISO 2X 6HX | HSS-E         | ■                  | 💧       | 73                |                |
| <b>UNI SN</b>                                                                       |                                                      |  | ISO 2X 6HX | HSS-E         | ■                  |         | 74                |                |
|  | <b>Dies</b>                                          |                                                                                     |            |               |                    |         |                   |                |
| <b>FE</b>                                                                           |                                                      |  | ISO 6g     | HSS           | □                  |         | 22 711...         |                |
| <b>VA</b>                                                                           |                                                      |  | ISO 6g     | HSS-E         | □                  |         | 22 714...         |                |

|                                                                                     |                                  |                                                                                     |                              |       |   |  |    |  |
|-------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|------------------------------|-------|---|--|----|--|
| <b>G</b>                                                                            | <b>Whitworth pipe thread</b>     |                                                                                     |                              |       |   |  |    |  |
|  | <b>UNI – Through hole thread</b> |                                                                                     |                              |       |   |  |    |  |
| <b>UNI</b>                                                                          | TruTap                           |  | ISO 228                      | HSS-E | ■ |  | 75 |  |
| <b>UNI</b>                                                                          |                                  |  | ISO 228                      | HSS-E | ■ |  | 76 |  |
|  | <b>UNI – Blind hole thread</b>   |                                                                                     |                              |       |   |  |    |  |
| <b>UNI</b>                                                                          | CavTap                           |  | ISO 228                      | HSS-E | ■ |  | 77 |  |
| <b>UNI</b>                                                                          | CavTap                           |  | ISO 228,<br>ISO 228<br>+0,05 | HSS-E | ■ |  | 77 |  |
| <b>UNI CNC</b>                                                                      | CavTap                           |  | ISO 228                      | HSS-E | ■ |  | 78 |  |
| <b>UNI</b>                                                                          |                                  |  | ISO 228                      | HSS-E | ■ |  | 79 |  |

|                                                                                     |                                                      |                                                                                      |          |       |   |  |           |  |
|-------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------|----------|-------|---|--|-----------|--|
| <b>G</b>                                                                            | <b>Whitworth pipe thread</b>                         |                                                                                      |          |       |   |  |           |  |
|    | <b>P – Through hole thread</b>                       |                                                                                      |          |       |   |  |           |  |
| <b>ST</b>                                                                           | TruTap                                               |    | ISO 228  | HSS-E | □ |  | 75        |  |
| <b>FE</b>                                                                           |                                                      |    | ISO 228  | HSS-E | □ |  | 23 260... |  |
|    | <b>P – Blind hole thread</b>                         |                                                                                      |          |       |   |  |           |  |
| <b>ST</b>                                                                           | CavTap                                               |    | ISO 228  | HSS-E | □ |  | 78        |  |
| <b>ST</b>                                                                           | CavTap SL                                            |    | ISO 228  | HSS-E | □ |  | 22 353... |  |
| <b>FE</b>                                                                           |                                                      |    | ISO 228  | HSS-E | □ |  | 23 261... |  |
|   | <b>P – Through hole thread and blind hole thread</b> |                                                                                      |          |       |   |  |           |  |
| <b>ST</b>                                                                           | DuoTap                                               |  | ISO 228X | HSS-E | □ |  | 80        |  |
| <b>HR</b>                                                                           | DuoTap                                               |  | ISO 228X | HSS-E | ■ |  | 80        |  |
|  | <b>M – Through hole thread</b>                       |                                                                                      |          |       |   |  |           |  |
| <b>VA</b>                                                                           | TruTap                                               |  | ISO 228  | HSS-E | ■ |  | 75        |  |
|  | <b>M – Blind hole thread</b>                         |                                                                                      |          |       |   |  |           |  |
| <b>VA</b>                                                                           | CavTap                                               |  | ISO 228  | HSS-E | ■ |  | 78        |  |
|  | <b>K – Through hole thread and blind hole thread</b> |                                                                                      |          |       |   |  |           |  |
| <b>GG</b>                                                                           | DuoTap                                               |  | ISO 228X | HSS-E | ■ |  | 22 348... |  |
|  | <b>N – Through hole thread</b>                       |                                                                                      |          |       |   |  |           |  |
| <b>NW</b>                                                                           | TruTap                                               |  | ISO 228  | HSS-E | ■ |  | 75        |  |
|  | <b>N – Blind hole thread</b>                         |                                                                                      |          |       |   |  |           |  |
| <b>NW</b>                                                                           | CavTap                                               |  | ISO 228  | HSS-E | ■ |  | 78        |  |
|  | <b>Machine thread formers</b>                        |                                                                                      |          |       |   |  |           |  |
| <b>EC</b>                                                                           | DuoForm                                              |  | ISO 228  | HSS-E | ■ |  | 81        |  |
| <b>EC SN</b>                                                                        | DuoForm                                              |  | ISO 228  | HSS-E | ■ |  | 81        |  |
|  | <b>Dies</b>                                          |                                                                                      |          |       |   |  |           |  |
| <b>FE</b>                                                                           |                                                      |  | ISO 228A | HSS   | □ |  | 22 741... |  |

## Taps Overview

| Application Area /<br>Special Features                                              | Tool type                        | Chamfer form                                                                        | Tolerance | Tool Material | coated<br>uncoated | Coolant | WNT \ Performance | WNT \ Standard |
|-------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|-----------|---------------|--------------------|---------|-------------------|----------------|
| <b>UNC</b>                                                                          | <b>Unified coarse thread</b>     |                                                                                     |           |               |                    |         |                   |                |
|    | <b>UNI – Through hole thread</b> |                                                                                     |           |               |                    |         |                   |                |
| UNI                                                                                 | TruTap                           |    | 2B        | HSS-E         | ■                  |         | 82                |                |
| UNI                                                                                 |                                  |    | 2B        | HSS-E         | ■                  |         | 83                |                |
|    | <b>UNI – Blind hole thread</b>   |                                                                                     |           |               |                    |         |                   |                |
| UNI                                                                                 | CavTap                           |    | 2B        | HSS-E         | ■                  |         | 84                |                |
| UNI                                                                                 |                                  |    | 2B        | HSS-E         | ■                  |         | 85                |                |
|    | <b>P – Through hole thread</b>   |                                                                                     |           |               |                    |         |                   |                |
| FE-HF                                                                               |                                  |   | 2B        | HSS-E         | ■                  |         | 83                |                |
|  | <b>P – Blind hole thread</b>     |                                                                                     |           |               |                    |         |                   |                |
| ST                                                                                  | CavTap                           |  | 2B        | HSS-E         | □                  |         | 22 264...         |                |
| FE-HF                                                                               |                                  |  | 2B        | HSS-E         | ■                  |         | 85                |                |
|  | <b>M – Through hole thread</b>   |                                                                                     |           |               |                    |         |                   |                |
| VA                                                                                  | TruTap                           |  | 2B        | HSS-E         | ■                  |         | 82                |                |
| VA                                                                                  |                                  |  | 2B        | HSS-E         | ■                  |         | 83                |                |
|  | <b>M – Blind hole thread</b>     |                                                                                     |           |               |                    |         |                   |                |
| VA                                                                                  | CavTap                           |  | 2B        | HSS-E         | ■                  |         | 84                |                |
| VA                                                                                  |                                  |  | 2B        | HSS-E         | □                  |         | 85                |                |
|  | <b>S – Through hole thread</b>   |                                                                                     |           |               |                    |         |                   |                |
| Ti                                                                                  | TruTap                           |  | 2BX       | HSS-PM        | ■                  |         | 82                |                |
|  | <b>S – Blind hole thread</b>     |                                                                                     |           |               |                    |         |                   |                |
| TI                                                                                  | CavTap SL                        |  | 2BX       | HSS-PM        | ■                  |         | 22 262...         |                |
|  | <b>Machine thread formers</b>    |                                                                                     |           |               |                    |         |                   |                |
| EC                                                                                  | DuoForm                          |  | 2BX       | HSS-E         | ■                  |         | 86                |                |
| EC SN                                                                               | DuoForm                          |  | 2BX       | HSS-E         | ■                  |         | 86                |                |

| Application Area /<br>Special Features                                            | Tool type                    | Chamfer form                                                                       | Tolerance | Tool Material | coated<br>uncoated | Coolant | WNT \ Performance | WNT \ Standard |
|-----------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------------------------------|-----------|---------------|--------------------|---------|-------------------|----------------|
| <b>UNC</b>                                                                        | <b>Unified coarse thread</b> |                                                                                    |           |               |                    |         |                   |                |
|  | <b>Dies</b>                  |                                                                                    |           |               |                    |         |                   |                |
| FE                                                                                |                              |  | 2A        | HSS           | □                  |         | 22 721...         |                |

|                                                                                   |                                               |                                                                                     |        |       |   |  |    |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------|--------|-------|---|--|----|--|
| <b>EG UNC</b>                                                                     | <b>Unified coarse thread for wire inserts</b> |                                                                                     |        |       |   |  |    |  |
|  | <b>UNI – Through hole thread</b>              |                                                                                     |        |       |   |  |    |  |
| UNI                                                                               | TruTap                                        |   | 2B mod | HSS-E | ■ |  | 87 |  |
|  | <b>UNI – Blind hole thread</b>                |                                                                                     |        |       |   |  |    |  |
| UNI                                                                               | CavTap                                        |  | 2B mod | HSS-E | ■ |  | 88 |  |

|                                                                                     |                              |                                                                                      |     |       |   |  |    |  |
|-------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------------|-----|-------|---|--|----|--|
| <b>UNJC</b>                                                                         | <b>Unified coarse thread</b> |                                                                                      |     |       |   |  |    |  |
|  | <b>S – Blind hole thread</b> |                                                                                      |     |       |   |  |    |  |
| Ti                                                                                  | CavTap SL                    |  | 3BX | HSS-E | ■ |  | 89 |  |

|                                                                                     |                                  |                                                                                      |          |       |   |  |    |  |
|-------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------|----------|-------|---|--|----|--|
| <b>UNF</b>                                                                          | <b>Unified fine thread</b>       |                                                                                      |          |       |   |  |    |  |
|  | <b>UNI – Through hole thread</b> |                                                                                      |          |       |   |  |    |  |
| UNI                                                                                 | TruTap                           |  | 2B       | HSS-E | ■ |  | 90 |  |
| UNI                                                                                 |                                  |  | 2B       | HSS-E | ■ |  | 91 |  |
|  | <b>UNI – Blind hole thread</b>   |                                                                                      |          |       |   |  |    |  |
| UNI                                                                                 | CavTap                           |  | 2B       | HSS-E | ■ |  | 92 |  |
| UNI                                                                                 | CavTap                           |  | 2B +0,05 | HSS-E | ■ |  | 92 |  |
| UNI                                                                                 |                                  |  | 2B       | HSS-E | ■ |  | 94 |  |
|  | <b>M – Blind hole thread</b>     |                                                                                      |          |       |   |  |    |  |
| VA                                                                                  | CavTap                           |  | 2B       | HSS-E | ■ |  | 92 |  |
| VA                                                                                  |                                  |  | 2B       | HSS-E | □ |  | 94 |  |



## Taps Overview

| Application Area /<br>Special Features                                            | Tool type                    | Chamfer form                                                                      | Tolerance  | Tool Material | coated<br>uncoated | Coolant | WNT \ Performance | WNT \ Standard |
|-----------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------|------------|---------------|--------------------|---------|-------------------|----------------|
| <b>UNF</b>                                                                        | Unified fine thread          |                                                                                   |            |               |                    |         |                   |                |
|  | <b>S – Blind hole thread</b> |                                                                                   |            |               |                    |         |                   |                |
| <b>Ti</b>                                                                         | CavTap<br>SL                 |  | 2BX<br>3BX | HSS-PM        | ■                  |         | 93                |                |
|  | <b>Thread formers</b>        |                                                                                   |            |               |                    |         |                   |                |
| <b>EC<br/>SN</b>                                                                  | DuoForm                      |  | 2BX        | HSS-E         | ■                  |         | 95                |                |

|                                                                                     |                                      |                                                                                     |    |       |   |  |    |  |
|-------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|----|-------|---|--|----|--|
| <b>EG<br/>UNF</b>                                                                   | Unified Fine Thread for wire inserts |                                                                                     |    |       |   |  |    |  |
|    | <b>UNI – Through hole thread</b>     |                                                                                     |    |       |   |  |    |  |
| <b>UNI</b>                                                                          | TruTap                               |   | 2B | HSS-E | ■ |  | 96 |  |
|  | <b>UNI – Blind hole thread</b>       |                                                                                     |    |       |   |  |    |  |
| <b>UNI</b>                                                                          | CavTap                               |  | 2B | HSS-E | ■ |  | 97 |  |

|                                                                                     |                                |                                                                                     |     |       |   |  |                                                                                                  |  |
|-------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------|-----|-------|---|--|--------------------------------------------------------------------------------------------------|--|
| <b>UNJF</b>                                                                         | Unified extra-fine thread      |                                                                                     |     |       |   |  |                                                                                                  |  |
|  | <b>S – Through hole thread</b> |                                                                                     |     |       |   |  |                                                                                                  |  |
| <b>Ti</b>                                                                           | TruTap<br>DL                   |  | 3BX | HSS-E | ■ |  | 22 167...<br> |  |
|  | <b>S – Blind hole thread</b>   |                                                                                     |     |       |   |  |                                                                                                  |  |
| <b>Ti</b>                                                                           | CavTap<br>SL                   |  | 3BX | HSS-E | ■ |  | 22 168...<br> |  |

|                                                                                     |                                  |                                                                                     |      |       |   |  |                                                                                                             |  |
|-------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|------|-------|---|--|-------------------------------------------------------------------------------------------------------------|--|
| <b>BSW</b>                                                                          | Whitworth thread                 |                                                                                     |      |       |   |  |                                                                                                             |  |
|  | <b>UNI – Through hole thread</b> |                                                                                     |      |       |   |  |                                                                                                             |  |
| <b>UNI</b>                                                                          | TruTap                           |  | med. | HSS-E | ■ |  | 22 626..., 22 627...<br> |  |
|  | <b>UNI – Blind hole thread</b>   |                                                                                     |      |       |   |  |                                                                                                             |  |
| <b>UNI</b>                                                                          | CavTap                           |  | med. | HSS-E | ■ |  | 22 628..., 22 629...<br> |  |

|                                                                                   |                                                      |                                                                                    |  |       |   |  |                                                                                                             |  |
|-----------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------|--|-------|---|--|-------------------------------------------------------------------------------------------------------------|--|
| <b>NPT</b>                                                                        | American taper pipe thread                           |                                                                                    |  |       |   |  |                                                                                                             |  |
|  | <b>P – Through hole thread and blind hole thread</b> |                                                                                    |  |       |   |  |                                                                                                             |  |
| <b>ST<br/>ES</b>                                                                  | DuoTap                                               |  |  | HSS-E | □ |  | 100                                                                                                         |  |
| <b>VG</b>                                                                         | DuoTap                                               |  |  | HSS-E | □ |  | 99                                                                                                          |  |
| <b>VG<br/>AZ</b>                                                                  | DuoTap                                               |  |  | HSS-E | □ |  | 22 377..., 22 378...<br> |  |
|  | <b>M – Blind hole thread</b>                         |                                                                                    |  |       |   |  |                                                                                                             |  |
| <b>VA</b>                                                                         | CavTap                                               |  |  | HSS-E | ■ |  | 98                                                                                                          |  |

|                                                                                     |                                                      |                                                                                      |  |       |   |  |                                                                                                    |  |
|-------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------|--|-------|---|--|----------------------------------------------------------------------------------------------------|--|
| <b>NPTF</b>                                                                         | American taper pipe thread                           |                                                                                      |  |       |   |  |                                                                                                    |  |
|  | <b>P – Through hole thread and blind hole thread</b> |                                                                                      |  |       |   |  |                                                                                                    |  |
| <b>ST</b>                                                                           | DuoTap                                               |  |  | HSS-E | □ |  | 22 382...<br> |  |
| <b>VG</b>                                                                           | DuoTap                                               |  |  | HSS-E | □ |  | 22 380...<br> |  |
| <b>ST<br/>ES</b>                                                                    | DuoTap                                               |  |  | HSS-E | □ |  | 22 367...<br> |  |

|                                                                                     |                                                      |                                                                                      |   |       |   |  |                                                                                                    |  |
|-------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------|---|-------|---|--|----------------------------------------------------------------------------------------------------|--|
| <b>Rp</b>                                                                           | Cylindrical Whitworth thread                         |                                                                                      |   |       |   |  |                                                                                                    |  |
|  | <b>P – Through hole thread and blind hole thread</b> |                                                                                      |   |       |   |  |                                                                                                    |  |
| <b>ST</b>                                                                           | DuoTap                                               |  | X | HSS-E | □ |  | 22 381...<br> |  |

|                                                                                     |                                                      |                                                                                      |  |       |   |  |                                                                                                    |  |
|-------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------|--|-------|---|--|----------------------------------------------------------------------------------------------------|--|
| <b>Rc</b>                                                                           | Tapered Whitworth thread                             |                                                                                      |  |       |   |  |                                                                                                    |  |
|  | <b>P – Through hole thread and blind hole thread</b> |                                                                                      |  |       |   |  |                                                                                                    |  |
| <b>ST</b>                                                                           | DuoTap                                               |  |  | HSS-E | □ |  | 22 389...<br> |  |

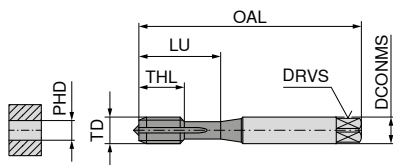
## Accessories

Shank extensions for taps 101

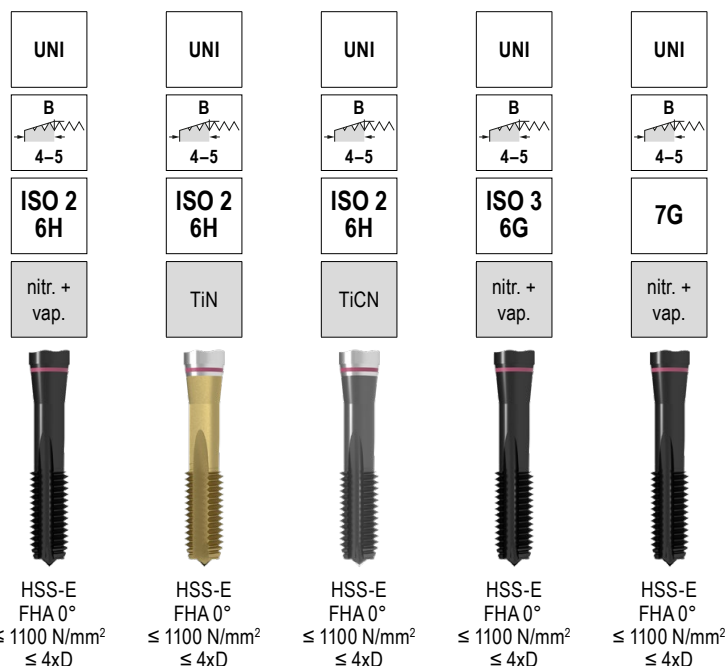
Tapping Oil, Chlorine Free 22 950...  


Thread-cutting paste, chlorine-free

## Through hole – Machine taps, right hand



DIN 371 with reinforced shank



| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes | 22 501 ... |                   | 22 503 ... |     | 22 505 ... |     | 22 508 ... |     | 22 510 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|------------|-------------------|------------|-----|------------|-----|------------|-----|------------|-----|
|          |          |           |              |            |           |           |          |        | £<br>U0    |                   | £<br>U0    |     | £<br>U0    |     | £<br>U0    |     | £<br>U0    |     |
| M1       | 0.25     | 40        | 2.5          | 2.1        | 0.75      | 5         | 5        | 2      | 134.24     | 010 <sup>1)</sup> |            |     |            |     |            |     |            |     |
| M1,2     | 0.25     | 40        | 2.5          | 2.1        | 0.95      | 5         | 5        | 2      | 129.27     | 012 <sup>1)</sup> |            |     |            |     |            |     |            |     |
| M1,4     | 0.30     | 40        | 2.5          | 2.1        | 1.10      | 7         | 7        | 3      | 115.03     | 014 <sup>1)</sup> |            |     |            |     |            |     |            |     |
| M1,6     | 0.35     | 40        | 2.5          | 2.1        | 1.25      | 8         | 11       | 3      | 81.57      | 016               |            |     |            |     |            |     |            |     |
| M1,7     | 0.35     | 40        | 2.5          | 2.1        | 1.35      | 6         | 11       | 2      | 124.95     | 017               |            |     |            |     |            |     |            |     |
| M1,8     | 0.35     | 40        | 2.5          | 2.1        | 1.45      | 6         | 11       | 2      | 173.22     | 018               |            |     |            |     |            |     |            |     |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 2      |            |                   | 58.63      | 020 |            |     |            |     | 72.16      | 020 |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 3      | 60.02      | 020               |            |     |            |     |            |     |            |     |
| M2,2     | 0.45     | 45        | 2.8          | 2.1        | 1.75      | 7         | 12       | 2      | 62.16      | 022               |            |     |            |     |            |     |            |     |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14       | 2      | 58.56      | 025               |            |     |            |     | 57.58      | 025 | 69.57      | 025 |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18       | 3      | 38.92      | 030               | 48.34      | 030 | 48.34      | 030 | 46.58      | 030 | 53.59      | 030 |
| M3,5     | 0.60     | 56        | 4.0          | 3.0        | 2.90      | 12        | 20       | 3      | 47.97      | 035               |            |     |            |     |            |     |            |     |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21       | 3      | 34.33      | 040               | 46.29      | 040 | 46.29      | 040 | 49.32      | 040 | 53.59      | 040 |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25       | 3      | 35.99      | 050               | 46.87      | 050 | 46.87      | 050 | 47.46      | 050 | 55.13      | 050 |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30       | 3      | 35.99      | 060               | 57.21      | 060 | 57.21      | 060 | 51.24      | 060 | 56.45      | 060 |
| M7       | 1.00     | 80        | 7.0          | 5.5        | 6.00      | 17        | 30       | 3      | 58.00      | 070               |            |     |            |     |            |     |            |     |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      | 42.61      | 080               | 62.44      | 080 | 62.44      | 080 | 54.45      | 080 | 62.83      | 080 |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      | 51.11      | 100               | 93.36      | 100 | 88.49      | 100 | 66.32      | 100 | 76.23      | 100 |
| M12      | 1.75     | 110       | 12.0         | 9.0        | 10.20     | 24        | 44       | 3      | 70.89      | 120               |            |     |            |     |            |     |            |     |
| P        |          |           |              |            |           |           |          |        | 12         |                   | 15         |     | 15         |     | 12         |     | 12         |     |
| M        |          |           |              |            |           |           |          |        | 7          |                   | 9          |     | 9          |     | 7          |     | 7          |     |
| K        |          |           |              |            |           |           |          |        | 12         |                   | 18         |     | 18         |     | 12         |     | 12         |     |
| N        |          |           |              |            |           |           |          |        |            |                   | 12         |     | 12         |     |            |     |            |     |
| S        |          |           |              |            |           |           |          |        |            |                   |            |     |            |     |            |     |            |     |
| H        |          |           |              |            |           |           |          |        |            |                   |            |     |            |     |            |     |            |     |
| O        |          |           |              |            |           |           |          |        |            |                   |            |     |            |     |            |     |            |     |

1) Tol. ISO 14H ≤ M1.4

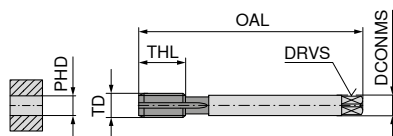
Cutting speed  $v_c$  (m/min.)

DIN 376 can be found on the next page

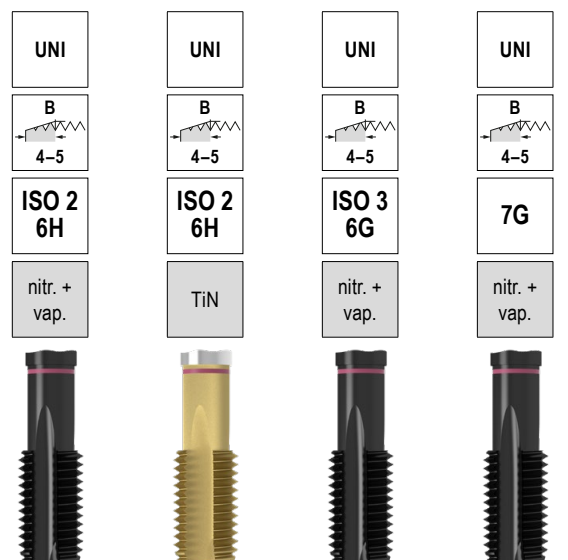
## Through hole – Machine taps, right hand

TruTap

M



DIN 376 with reduced shank

HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xDHSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xDHSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xDHSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

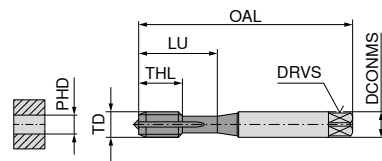
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | 22 502 ...<br>£<br>U0 | 22 504 ...<br>£<br>U0 | 22 509 ...<br>£<br>U0 | 22 511 ...<br>£<br>U0 |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|-----------------------|-----------------------|-----------------------|-----------------------|
| M3       | 0.50     | 56        | 2.2          |            | 2.5       | 11        | 3      | 78.87                 |                       |                       |                       |
| M4       | 0.70     | 63        | 2.8          | 2.1        | 3.3       | 13        | 3      | 52.48                 |                       |                       |                       |
| M5       | 0.80     | 70        | 3.5          | 2.7        | 4.2       | 15        | 3      | 49.30                 |                       |                       |                       |
| M6       | 1.00     | 80        | 4.5          | 3.4        | 5.0       | 17        | 3      | 49.52                 |                       |                       |                       |
| M8       | 1.25     | 90        | 6.0          | 4.9        | 6.8       | 20        | 3      | 54.91                 |                       |                       |                       |
| M10      | 1.50     | 100       | 7.0          | 5.5        | 8.5       | 22        | 3      | 64.43                 |                       |                       |                       |
| M12      | 1.75     | 110       | 9.0          | 7.0        | 10.2      | 24        | 3      | 63.46                 | 102.03                |                       |                       |
| M14      | 2.00     | 110       | 11.0         | 9.0        | 12.0      | 26        | 3      | 80.25                 | 178.19                |                       |                       |
| M16      | 2.00     | 110       | 12.0         | 9.0        | 14.0      | 27        | 3      | 89.05                 | 132.81                |                       |                       |
| M18      | 2.50     | 125       | 14.0         | 11.0       | 15.5      | 30        | 3      | 166.96                | 282.45                |                       |                       |
| M20      | 2.50     | 140       | 16.0         | 12.0       | 17.5      | 32        | 3      | 132.48                | 287.41                |                       |                       |
| M22      | 2.50     | 140       | 18.0         | 14.5       | 19.5      | 32        | 3      | 224.53                | 436.64                |                       |                       |
| M24      | 3.00     | 160       | 18.0         | 14.5       | 21.0      | 34        | 3      | 177.06                | 367.82                |                       |                       |
| M27      | 3.00     | 160       | 20.0         | 16.0       | 24.0      | 36        | 3      | 253.82                |                       |                       |                       |
| M30      | 3.50     | 180       | 22.0         | 18.0       | 26.5      | 40        | 4      | 288.15                |                       |                       |                       |
| M33      | 3.50     | 180       | 25.0         | 20.0       | 29.5      | 40        | 4      | 718.30                |                       |                       |                       |
| M36      | 4.00     | 200       | 28.0         | 22.0       | 32.0      | 50        | 4      | 826.97                |                       |                       |                       |
| M42      | 4.50     | 200       | 32.0         | 24.0       | 37.5      | 56        | 4      | 1,570.60              |                       |                       |                       |
| M48      | 5.00     | 250       | 36.0         | 29.0       | 43.0      | 65        | 4      | 1,658.89              |                       |                       |                       |
| P        |          |           |              |            |           |           |        | 12                    | 15                    | 12                    | 12                    |
| M        |          |           |              |            |           |           |        | 7                     | 9                     | 7                     | 7                     |
| K        |          |           |              |            |           |           |        | 12                    | 18                    | 12                    | 12                    |
| N        |          |           |              |            |           |           |        |                       | 12                    |                       |                       |
| S        |          |           |              |            |           |           |        |                       |                       |                       |                       |
| H        |          |           |              |            |           |           |        |                       |                       |                       |                       |
| O        |          |           |              |            |           |           |        |                       |                       |                       |                       |

Cutting speed v<sub>c</sub> (m/min.)

## Through hole – Machine taps, right hand

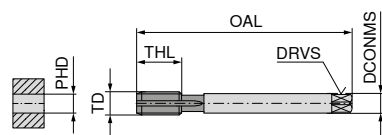
▲ CNC = for synchronised CNC machining with minimum length compensation chuck

▲ NCW = with Weldon flat for synchronised CNC machining without length compensation chuck



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 6         | 18       | 3      |
| M3       | 0.50     | 70        | 6.0          | 4.9        | 2.5       | 6         | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 7         | 21       | 3      |
| M4       | 0.70     | 70        | 6.0          | 4.9        | 3.3       | 7         | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 8         | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 10        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 14        | 35       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 14        | 35       | 4      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 16        | 39       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 16        | 39       | 4      |
| M12      | 1.75     | 110       | 10.0         | 8.0        | 10.2      | 18        | 41       | 3      |
| M16      | 2.00     | 110       | 12.0         | 9.0        | 14.0      | 22        | 44       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 18        | 4      |
| M14      | 2.00     | 110       | 11           | 9          | 12.0      | 20        | 4      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 4      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 25        | 4      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 15 | 15 | 15 | 15 |
| M | 8  | 9  | 9  | 9  |
| K | 15 | 18 | 18 | 18 |
| N | 22 | 12 | 12 | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Cutting speed  $v_c$  (m/min.)

| UNI<br>NCW                                | UNI<br>CNC                               | UNI<br>CNC                               | UNI<br>CNC                               |
|-------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| B<br>4-5                                  | B<br>4-5                                 | B<br>4-5                                 | B<br>4-5                                 |
| ISO 2<br>6H                               | ISO 2X<br>6HX                            | ISO 3X<br>6GX                            | 7GX                                      |
| TiN                                       | TiN GS                                   | TiN GS                                   | TiN GS                                   |
|                                           |                                          |                                          |                                          |
| HSS-PM<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD |
| 22 148 ...                                | 22 542 ...                               | 22 596 ...                               | 22 592 ...                               |
| £<br>U0                                   | £<br>U0                                  | £<br>U0                                  | £<br>U0                                  |
| 80.80 030                                 | 55.93 030                                |                                          |                                          |
|                                           | 59.00 040                                | 66.26 040                                | 71.68 040                                |
| 85.05 040                                 |                                          |                                          |                                          |
| 86.36 050                                 | 61.63 050                                | 67.35 050                                | 74.52 050                                |
| 107.72 060                                | 78.22 060                                | 84.49 060                                | 95.20 060                                |
| 118.81 080                                |                                          |                                          |                                          |
|                                           | 83.61 080                                | 92.24 080                                | 104.40 080                               |
| 143.33 100                                |                                          |                                          |                                          |
|                                           | 105.88 100                               | 113.62 100                               | 124.36 100                               |
| 175.98 120                                |                                          |                                          |                                          |
| 247.03 160                                |                                          |                                          |                                          |

22 543 ...

| £<br>U0 |     |
|---------|-----|
| 121.60  | 120 |
| 343.64  | 140 |
| 172.85  | 160 |
| 302.00  | 200 |

22 593 ...

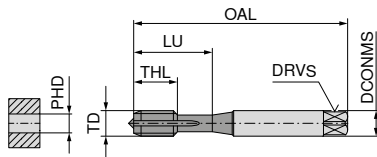
| £<br>U0 |     |
|---------|-----|
| 149.79  | 120 |

## Through hole – Machine taps

▲ LH = for left hand threads

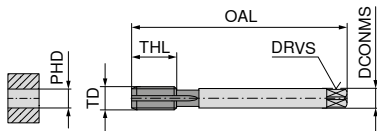
TruTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 2      |
| M2,3     | 0.40     | 45        | 2.8          | 2.1        | 1.90      | 7         | 12       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14       | 2      |
| M2,6     | 0.45     | 50        | 2.8          | 2.1        | 2.15      | 9         | 14       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18       | 3      |
| M3,5     | 0.60     | 56        | 4.0          | 3.0        | 2.90      | 12        | 20       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M5       | 0.80     | 70        | 3.5          | 2.7        | 4.2       | 15        | 3      |
| M6       | 1.00     | 80        | 4.5          | 3.4        | 5.0       | 17        | 3      |
| M8       | 1.25     | 90        | 6.0          | 4.9        | 6.8       | 20        | 3      |
| M10      | 1.50     | 100       | 7.0          | 5.5        | 8.5       | 22        | 3      |
| M12      | 1.75     | 110       | 9.0          | 7.0        | 10.2      | 24        | 3      |
| M14      | 2.00     | 110       | 11.0         | 9.0        | 12.0      | 26        | 3      |
| M16      | 2.00     | 110       | 12.0         | 9.0        | 14.0      | 27        | 3      |
| M18      | 2.50     | 125       | 14.0         | 11.0       | 15.5      | 30        | 3      |
| M20      | 2.50     | 140       | 16.0         | 12.0       | 17.5      | 32        | 3      |

|   |    |    |
|---|----|----|
| P | 12 | 12 |
| M |    |    |
| K | 12 | 12 |
| N | 12 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

ST

ISO 2  
6HST  
LHISO 2  
6HHSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 4xDHSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 4xD

22 020 ...

£

U0

020

023

025

026

030

035

040

050

060

080

100

22 127 ...

£

U0

030

040

050

060

080

100

22 021 ...

£

U0

050

060

080

100

120

140

160

180

200

22 147 ...

£

U0

120

160

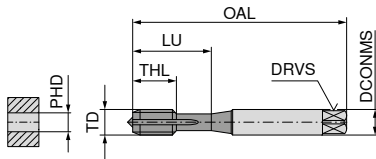
200

## Through hole – Machine taps, right hand

▲ TS = for high-speed machining, up to 100 m/min.

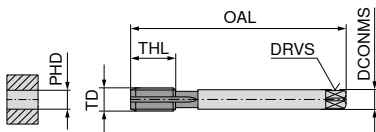
TruTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 2      |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 4         | 12       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 5         | 15       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 6         | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21       | 2      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 7         | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25       | 2      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 8         | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 10        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 14        | 35       | 4      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 16        | 39       | 4      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 18        | 4      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 4      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 25        | 4      |

|   |    |    |    |
|---|----|----|----|
| P | 65 | 8  | 10 |
| M |    | 8  | 8  |
| K | 65 |    |    |
| N | 75 | 10 | 22 |
| S |    | 4  |    |
| H |    |    |    |
| O |    |    |    |

Cutting speed  $v_c$  (m/min.)

| ST<br>TS                                 | HR                                        | VG                                       |
|------------------------------------------|-------------------------------------------|------------------------------------------|
| B<br>4-5                                 | B<br>4-5                                  | B<br>4-5                                 |
| ISO 2X<br>6HX                            | ISO 2X<br>6HX                             | ISO 2X<br>6HX                            |
| TiN                                      | AlTiNHD                                   | TiN                                      |
|                                          |                                           |                                          |
| HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-PM<br>FHA 0°<br>≤ 1400 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD |
| 22 092 ...                               | 22 468 ...                                | 22 120 ...                               |
| £<br>U0                                  | £<br>U0                                   | £<br>U0                                  |
|                                          |                                           |                                          |
| 78.20 020                                | 88.19 02000                               | 69.57 020                                |
| 78.20 025                                | 88.19 02500                               | 69.57 025                                |
| 61.37 030                                | 57.35 03000                               | 51.86 030                                |
| 71.50 040                                | 59.84 04000                               | 56.10 040                                |
| 75.11 050                                | 61.75 05000                               | 58.50 050                                |
| 97.23 060                                | 69.98 06000                               | 71.59 060                                |
| 102.95 080                               | 76.88 08000                               | 75.62 080                                |
| 139.46 100                               | 108.28 10000                              | 108.11 100                               |

22 093 ...

£  
U0

151.63 120

224.53 160

323.00 200

22 121 ...

£  
U0

128.60 120

175.98 160

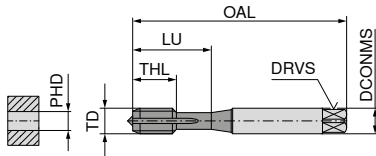
299.23 200



## Through hole – Machine taps, right hand

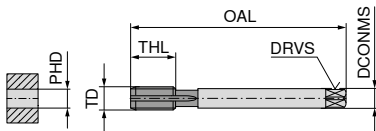
TruTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M1,6     | 0.35     | 40        | 2.5          | 2.1        | 1.25      | 6         | 11       | 2      |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18       | 3      |
| M3,5     | 0.60     | 56        | 4.0          | 3.0        | 2.90      | 12        | 20       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      |
| M8       | 1.25     | 100       | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      |
| M10      | 1.50     | 110       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 24        | 3      |
| M14      | 2.00     | 110       | 11           | 9          | 12.0      | 26        | 3      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 27        | 3      |
| M18      | 2.50     | 125       | 14           | 11         | 15.5      | 30        | 3      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 32        | 3      |

|   |   |    |    |
|---|---|----|----|
| P | 8 | 10 |    |
| M | 6 | 8  |    |
| K |   |    |    |
| N |   |    | 15 |
| S |   |    |    |
| H |   |    |    |
| O |   |    |    |

Cutting speed  $v_c$  (m/min.)

|                                         |                                         |                                         |
|-----------------------------------------|-----------------------------------------|-----------------------------------------|
| VA                                      | VA                                      | NW                                      |
| B<br>4-5                                | B<br>4-5                                | B<br>4-5                                |
| ISO 2<br>6H                             | ISO 2<br>6H                             | ISO 2<br>6H                             |
| nitr.                                   | TiN GS                                  | DLC                                     |
|                                         |                                         |                                         |
| HSS-E<br>FHA 0°<br>≤ 900 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 900 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 880 N/mm²<br>≤ 4xD |

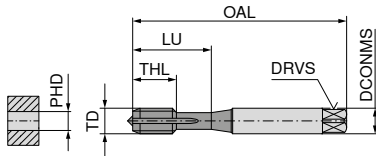
| 22 056 ... | 22 038 ... | 22 464 ... |
|------------|------------|------------|
| £<br>U0    | £<br>U0    | £<br>U0    |
| 88.17      | 016        |            |
| 72.52      | 020        | 51.14      |
| 69.13      | 025        | 51.14      |
| 36.59      | 030        | 39.21      |
| 51.31      | 035        |            |
| 38.38      | 040        | 39.80      |
| 40.62      | 050        | 40.38      |
| 42.40      | 060        | 40.38      |
| 46.16      | 080        |            |
|            |            | 47.20      |
| 56.46      | 100        |            |
|            |            | 59.47      |
|            |            | 10000      |

| 22 057 ... | 22 039 ... | 22 465 ... |
|------------|------------|------------|
| £<br>U0    | £<br>U0    | £<br>U0    |
| 71.50      | 120        | 126.56     |
| 98.86      | 140        | 183.17     |
| 101.15     | 160        | 179.51     |
| 247.71     | 180        |            |
| 147.48     | 200        | 306.98     |
|            |            | 147.49     |
|            |            | 20000      |

## Through hole – Machine taps, right hand

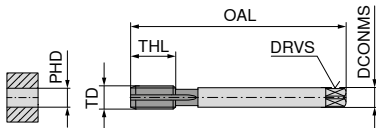
TruTap

M



DIN 371 with reinforced shank

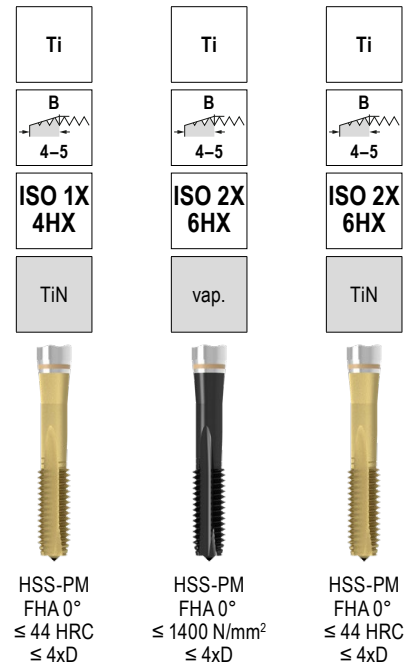
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M1,6     | 0.35     | 40        | 2.5          | 2.1        | 1.25      | 8         | 9.5      | 3      |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 8         | 9.5      | 3      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14.0     | 3      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18.0     | 3      |
| M3,5     | 0.60     | 56        | 4.0          | 3.0        | 2.90      | 12        | 20.0     | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21.0     | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25.0     | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30.0     | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35.0     | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39.0     | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 24        | 3      |

|   |   |   |   |
|---|---|---|---|
| P | 7 | 5 | 7 |
| M | 7 | 5 | 7 |
| K |   |   |   |
| N |   |   |   |
| S | 5 | 3 | 5 |
| H |   |   |   |
| O |   |   |   |

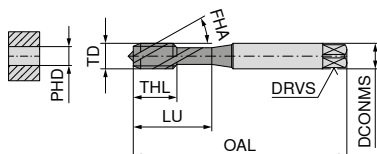
Cutting speed  $v_c$  (m/min.)

| 22 081 ... | 22 075 ... | 22 077 ... |
|------------|------------|------------|
| £<br>U0    | £<br>U0    | £<br>U0    |
| 178.68     | 120.02     |            |
| 108.22     | 153.32     |            |
| 110.33     | 146.01     |            |
| 113.16     | 101.91     | 108.22     |
| 113.16     | 75.55      |            |
| 130.37     | 109.96     | 110.33     |
|            | 108.22     | 113.16     |
|            | 108.22     | 113.16     |
|            | 125.79     | 130.37     |
|            | 151.62     | 152.85     |

## Through hole – Machine taps, right hand

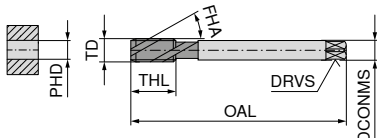
TruTap  
DL

M



DIN 371 with reinforced shank

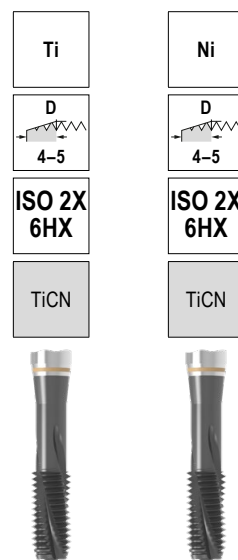
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 11        | 18       | 2      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 13        | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 22        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7.0        | 10.2      | 24        | 3      |
| M16      | 2.00     | 110       | 12           | 9.0        | 14.0      | 27        | 3      |
| M20      | 2.50     | 140       | 16           | 12.0       | 17.5      | 32        | 3      |
| M24      | 3.00     | 160       | 18           | 14.5       | 21.0      | 34        | 3      |

|   |    |    |
|---|----|----|
| P | 7  |    |
| M | 7  |    |
| K |    |    |
| N | 22 | 22 |
| S | 5  | 2  |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)HSS-E  
FHA 15°  
≤ 1200 N/mm²  
≤ 4xDHSS-E  
FHA 15°  
≤ 1600 N/mm²  
≤ 4xD

22 159 ...

£

U0

64.02

030

22 297 ...

£

U0

82.43

030

69.57

040

85.83

040

70.30

050

88.04

050

92.11

060

111.39

060

101.15

080

123.61

080

126.73

100

154.77

100

22 160 ...

£

U0

146.30

120

22 298 ...

£

U0

178.24

120

206.04

160

249.90

160

356.04

200

426.13

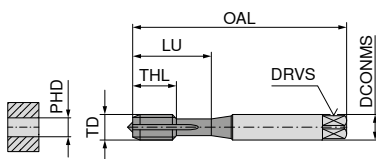
200

419.85

240

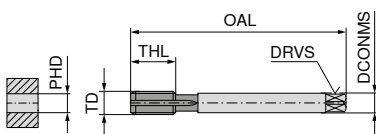
## Through hole – Machine taps, right hand

▲ EL = extra long, with double overall length



DIN 371 with reinforced shank

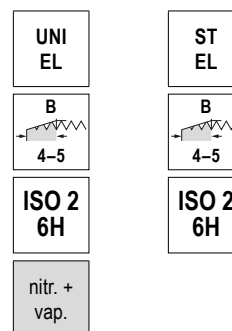
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 100       | 3.5          | 2.7        | 2.5       | 11        | 18       | 3      |
| M4       | 0.70     | 125       | 4.5          | 3.4        | 3.3       | 13        | 21       | 3      |
| M5       | 0.80     | 140       | 6.0          | 4.9        | 4.2       | 15        | 25       | 3      |
| M6       | 1.00     | 160       | 6.0          | 4.9        | 5.0       | 17        | 30       | 3      |
| M8       | 1.25     | 180       | 8.0          | 6.2        | 6.8       | 20        | 35       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M6       | 1.00     | 160       | 4.5          | 3.4        | 5.0       | 17        | 3      |
| M8       | 1.25     | 180       | 6.0          | 4.9        | 6.8       | 20        | 3      |
| M10      | 1.50     | 200       | 7.0          | 5.5        | 8.5       | 22        | 3      |
| M12      | 1.75     | 224       | 9.0          | 7.0        | 10.2      | 24        | 3      |
| M14      | 2.00     | 224       | 11.0         | 9.0        | 12.0      | 26        | 3      |
| M16      | 2.00     | 224       | 12.0         | 9.0        | 14.0      | 27        | 3      |
| M18      | 2.50     | 250       | 14.0         | 11.0       | 15.5      | 30        | 3      |
| M20      | 2.50     | 280       | 16.0         | 12.0       | 17.5      | 32        | 3      |

|   |    |    |
|---|----|----|
| P | 12 | 12 |
| M | 7  |    |
| K | 12 | 12 |
| N |    | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

HSS-E  
FHA 0°  
≤ 950 N/mm²  
≤ 4xD

22 514 ...

| £<br>U0 |     |
|---------|-----|
| 85.97   | 030 |
| 85.97   | 040 |
| 96.28   | 050 |
| 104.78  | 060 |
| 112.55  | 080 |

22 233 ...

| £<br>U0 |     |
|---------|-----|
| 89.68   | 030 |
| 85.83   | 040 |
| 93.66   | 050 |
| 98.02   | 060 |
| 117.01  | 080 |

22 515 ...

| £<br>U0 |     |
|---------|-----|
| 101.63  | 060 |
| 124.91  | 080 |
| 134.27  | 100 |
| 147.48  | 120 |
| 258.81  | 140 |
| 290.94  | 160 |
| 391.82  | 180 |
| 346.64  | 200 |

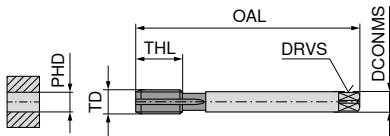
22 234 ...

| £<br>U0 |     |
|---------|-----|
| 98.02   | 060 |
| 117.01  | 080 |
| 130.19  | 100 |
| 156.98  | 120 |
| 253.77  | 140 |
| 244.10  | 160 |
| 366.14  | 180 |
| 329.33  | 200 |

## Through hole – Machine taps, right hand

▲ MMB = Nut taps

M

ST  
MMBISO 2  
6H

DIN 357 with reduced shank

HSS-E  
FHA 0°  
≤ 850 N/mm²  
≤ 1xD

22 098 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |    |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|----|
| M3       | 0.50     | 70        | 2.2          | 2.5        | 2.5       | 16        | 3      |    |
| M4       | 0.70     | 90        | 2.8          | 2.1        | 3.3       | 22        | 3      |    |
| M5       | 0.80     | 100       | 3.5          | 2.7        | 4.2       | 24        | 3      |    |
| M6       | 1.00     | 110       | 4.5          | 3.4        | 5.0       | 30        | 3      |    |
| M8       | 1.25     | 125       | 6.0          | 4.9        | 6.8       | 38        | 3      |    |
| M10      | 1.50     | 140       | 7.0          | 5.5        | 8.5       | 45        | 3      |    |
| M12      | 1.75     | 180       | 9.0          | 7.0        | 10.2      | 50        | 3      |    |
| M16      | 2.00     | 200       | 12.0         | 9.0        | 14.0      | 63        | 3      |    |
| P        |          |           |              |            |           |           |        | 15 |
| M        |          |           |              |            |           |           |        |    |
| K        |          |           |              |            |           |           |        |    |
| N        |          |           |              |            |           |           |        |    |
| S        |          |           |              |            |           |           |        |    |
| H        |          |           |              |            |           |           |        |    |
| O        |          |           |              |            |           |           |        |    |

£

U0

64.02

64.02

66.99

66.99

82.68

93.90

126.19

180.98

030

040

050

060

080

100

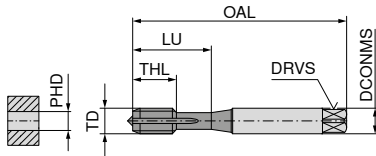
120

160

Cutting speed  $v_c$  (m/min.)

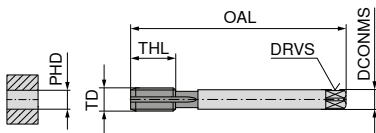
## Through hole – Machine taps, right hand

M



DIN 371 with reinforced shank

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU   | Flutes |
|------|------|-----|--------|------|------|-----|------|--------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm   |        |
| M2   | 0.40 | 45  | 2.8    | 2.1  | 1.60 | 4   | 13.5 | 2      |
| M2   | 0.40 | 45  | 2.8    | 2.1  | 1.60 | 7   | 12.0 | 2      |
| M2.5 | 0.45 | 50  | 2.8    | 2.1  | 2.05 | 9   | 14.0 | 2      |
| M3   | 0.50 | 56  | 3.5    | 2.7  | 2.50 | 11  | 18.0 | 3      |
| M4   | 0.70 | 63  | 4.5    | 3.4  | 3.30 | 13  | 21.0 | 3      |
| M5   | 0.80 | 70  | 6.0    | 4.9  | 4.20 | 15  | 25.0 | 3      |
| M6   | 1.00 | 80  | 6.0    | 4.9  | 5.00 | 17  | 30.0 | 3      |
| M8   | 1.25 | 90  | 8.0    | 6.2  | 6.80 | 20  | 35.0 | 3      |
| M10  | 1.50 | 100 | 10.0   | 8.0  | 8.50 | 22  | 39.0 | 3      |



DIN 376 with reduced shank

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes |
|-----|------|-----|--------|------|------|-----|--------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |        |
| M3  | 0.50 | 56  | 2.2    |      | 2.5  | 11  | 3      |
| M4  | 0.70 | 63  | 2.8    | 2.1  | 3.3  | 13  | 3      |
| M5  | 0.80 | 70  | 3.5    | 2.7  | 4.2  | 15  | 3      |
| M6  | 1.00 | 80  | 4.5    | 3.4  | 5.0  | 17  | 3      |
| M8  | 1.25 | 90  | 6.0    | 4.9  | 6.8  | 20  | 3      |
| M10 | 1.50 | 100 | 7.0    | 5.5  | 8.5  | 22  | 3      |
| M12 | 1.75 | 110 | 9.0    | 7.0  | 10.2 | 24  | 3      |
| M14 | 2.00 | 110 | 11.0   | 9.0  | 12.0 | 20  | 4      |
| M14 | 2.00 | 110 | 11.0   | 9.0  | 12.0 | 26  | 3      |
| M16 | 2.00 | 110 | 12.0   | 9.0  | 14.0 | 27  | 3      |
| M18 | 2.50 | 125 | 14.0   | 11.0 | 15.5 | 25  | 4      |
| M18 | 2.50 | 125 | 14.0   | 11.0 | 15.5 | 30  | 3      |
| M20 | 2.50 | 140 | 16.0   | 12.0 | 17.5 | 32  | 3      |
| M22 | 2.50 | 140 | 18.0   | 14.5 | 19.5 | 32  | 3      |
| M24 | 3.00 | 160 | 18.0   | 14.5 | 21.0 | 34  | 3      |
| M27 | 3.00 | 160 | 20.0   | 16.0 | 24.0 | 36  | 3      |
| M30 | 3.50 | 180 | 22.0   | 18.0 | 26.5 | 40  | 4      |
| M33 | 3.50 | 180 | 25.0   | 20.0 | 29.5 | 40  | 4      |
| M36 | 4.00 | 200 | 28.0   | 22.0 | 32.0 | 50  | 4      |

|   |    |    |    |
|---|----|----|----|
| P | 12 | 15 | 15 |
| M | 7  | 9  | 9  |
| K | 12 | 18 | 18 |
| N |    | 12 | 12 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

| UNI                                      | UNI                                      | UNI                                       |
|------------------------------------------|------------------------------------------|-------------------------------------------|
| B<br>4-5                                 | B<br>4-5                                 | B<br>4-5                                  |
| ISO 2<br>6H                              | ISO 2<br>6H                              | ISO 2<br>6H                               |
| nitr. +<br>vap.                          | TiN                                      | TiN                                       |
|                                          |                                          |                                           |
| HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-PM<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD |
| 23 110 ...                               | 23 112 ...                               | 23 010 ...                                |
| £<br>T9                                  | £<br>T9                                  | £<br>T9                                   |
| 34.69 020                                | 40.62 020                                | 11.66 020                                 |
| 33.48 025                                | 39.31 025                                |                                           |
| 26.42 030                                | 32.94 030                                | 14.65 030                                 |
| 26.99 040                                | 37.47 040                                | 13.36 040                                 |
| 27.52 050                                | 37.82 050                                | 14.94 050                                 |
| 27.70 060                                | 47.80 060                                | 17.91 060                                 |
| 31.69 080                                | 51.31 080                                | 19.88 080                                 |
| 38.38 100                                | 70.12 100                                | 26.30 100                                 |

| 23 111 ... | 23 113 ...   | 23 021 ... |
|------------|--------------|------------|
| £<br>T9    | £<br>T9      | £<br>T9    |
| 10.39 030  |              |            |
| 10.21 040  |              |            |
| 10.21 050  |              |            |
| 10.65 060  |              |            |
| 12.51 080  |              |            |
| 14.50 100  |              |            |
| 17.35 120  | 77.49 120    | 31.41 120  |
|            |              | 47.61 140  |
| 25.16 140  | 50.30 14000  |            |
| 25.70 160  | 101.50 160   | 44.21 160  |
|            |              | 77.44 180  |
|            | 79.81 18000  |            |
| 40.92 200  | 180.25 200   | 80.01 200  |
|            | 118.20 22000 |            |
|            | 191.49 240   |            |
|            | 147.80 27000 |            |
|            | 165.78 30000 |            |
|            | 217.45 33000 |            |
|            | 266.34 36000 |            |

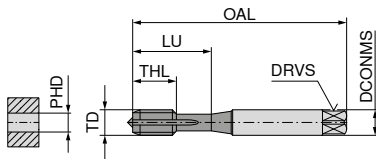
Cutting speed  $v_c$  (m/min.)

## Through hole – Machine taps, right hand

▲ NCW = with Weldon flat for synchronised CNC machining without length compensation chuck

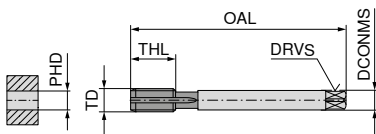
▲ NC = for synchronised CNC machining with minimum length compensation chuck

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M1,6     | 0.35     | 40        | 2.5          | 2.1        | 1.25      | 6         | 11       | 2      |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18       | 3      |
| M3       | 0.50     | 70        | 6.0          | 4.9        | 2.50      | 6         | 18       | 3      |
| M3,5     | 0.60     | 56        | 4.0          | 3.0        | 2.90      | 12        | 20       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21       | 3      |
| M4       | 0.70     | 70        | 6.0          | 4.9        | 3.30      | 7         | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 8         | 25       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 10        | 30       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 14        | 35       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 16        | 39       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 24        | 3      |
| M12      | 1.75     | 110       | 10           | 8          | 10.2      | 18        | 3      |
| M14      | 2.00     | 110       | 11           | 9          | 12.0      | 26        | 3      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 3      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 27        | 3      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 32        | 3      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 15 | 15 | 12 | 15 |
| M | 9  | 8  |    |    |
| K | 18 | 15 | 12 | 15 |
| N | 12 | 22 | 12 | 15 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

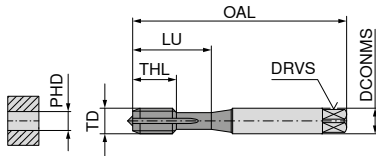
Cutting speed  $v_c$  (m/min.)

| UNI NC                                   | UNI NCW                                   | FE                                               | FE-HF                                    |
|------------------------------------------|-------------------------------------------|--------------------------------------------------|------------------------------------------|
| B<br>4-5                                 | B<br>4-5                                  | B<br>4-5                                         | B<br>4-5                                 |
| ISO 2 6H                                 | ISO 2 6H                                  | ISO 2 6H                                         | ISO 2 6H                                 |
| TiN GS                                   | TiCN                                      |                                                  | TiCN                                     |
| HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-PM<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 850 N/mm²<br>≤ 3xD          | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 3xD |
| 23 114 ...                               | 23 116 ...                                | 23 212 ...                                       | 23 310 ...                               |
| £<br>T9                                  | £<br>T9                                   | £<br>T9                                          | £<br>T9                                  |
| 35.25 030                                | 42.08 030                                 | 35.25 016<br>23.35 020<br>20.30 025<br>16.09 030 | 33.21 030                                |
| 37.28 040                                | 48.18 040<br>47.97 050                    | 17.91 035<br>16.09 040                           | 34.77 040                                |
| 38.38 050                                | 47.97 060                                 | 16.14 050                                        | 35.79 050                                |
| 55.21 060                                | 60.63 080                                 | 16.14 060                                        | 47.97 060                                |
| 59.61 080                                | 73.31 100                                 | 21.00 080                                        | 51.77 080                                |
| 74.89 100                                |                                           | 25.17 100                                        | 64.98 100                                |



## Through hole – Machine taps, right hand

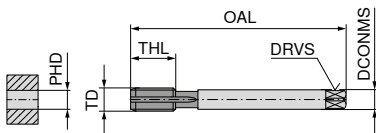
M



DIN 371 with reinforced shank

|                                          |                                           |                                          |                                         |                                         |
|------------------------------------------|-------------------------------------------|------------------------------------------|-----------------------------------------|-----------------------------------------|
| VA                                       | VA                                        | VA                                       | AL                                      | AL                                      |
|                                          |                                           |                                          |                                         |                                         |
| ISO 2 6H                                 | ISO 2 6H                                  | ISO 2 6H                                 | ISO 2 6H                                | ISO 2 6H                                |
| TiN                                      | nitr.                                     | nitr.                                    |                                         | CrN                                     |
|                                          |                                           |                                          |                                         |                                         |
| HSS-E<br>FHA 0°<br>≤ 1200 N/mm²<br>≤ 3xD | HSS-PM<br>FHA 0°<br>≤ 1200 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1200 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 500 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 500 N/mm²<br>≤ 3xD |

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes | 23 412 ... |     | 23 450 ... |     | 23 410 ... |     | 23 610 ... |     | 23 612 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|
|          |          |           |              |            |           |           |          |        | £<br>T9    |     | £<br>T9    |     | £<br>T9    |     | £<br>T9    |     | £<br>T9    |     |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 2      | 41.57      | 020 |            |     | 26.20      | 020 |            |     |            |     |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14       | 2      | 35.18      | 025 |            |     | 33.48      | 025 |            |     |            |     |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18       | 3      | 32.94      | 030 | 13.65      | 030 | 17.57      | 030 | 16.09      | 030 | 30.27      | 030 |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21       | 3      | 37.47      | 040 | 13.78      | 040 | 17.57      | 040 | 16.09      | 040 | 31.37      | 040 |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25       | 3      | 37.82      | 050 | 14.94      | 050 | 18.28      | 050 | 16.14      | 050 | 32.09      | 050 |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30       | 3      | 49.26      | 060 | 15.05      | 060 | 18.28      | 060 | 16.14      | 060 | 32.09      | 060 |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      | 52.84      | 080 | 16.92      | 080 | 23.26      | 080 | 21.00      | 080 | 36.04      | 080 |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      | 72.23      | 100 | 19.19      | 100 | 28.04      | 100 | 25.17      | 100 | 45.01      | 100 |



DIN 376 with reduced shank

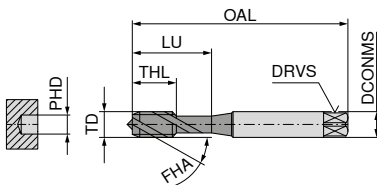
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | 23 413 ... |     | 23 451 ... |     | 23 411 ... |       |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|------------|-----|------------|-----|------------|-------|
|          |          |           |              |            |           |           |        | £<br>T9    |     | £<br>T9    |     | £<br>T9    |       |
| M12      | 1.75     | 110       | 9            | 7.0        | 10.2      | 24        | 3      | 81.36      | 120 | 34.26      | 120 | 37.47      | 120   |
| M14      | 2.00     | 110       | 11           | 9.0        | 12.0      | 26        | 3      |            |     | 45.34      | 140 |            |       |
| M16      | 2.00     | 110       | 12           | 9.0        | 14.0      | 27        | 3      | 101.50     | 160 | 47.91      | 160 | 57.21      | 160   |
| M20      | 2.50     | 140       | 16           | 12.0       | 17.5      | 32        | 3      | 176.72     | 200 | 71.62      | 200 | 87.06      | 200   |
| M24      | 3.00     | 160       | 18           | 14.5       | 21.0      | 34        | 3      |            |     |            |     | 115.14     | 240   |
| P        |          |           |              |            |           |           |        | 10         |     | 8          |     | 8          |       |
| M        |          |           |              |            |           |           |        | 8          |     | 6          |     | 6          |       |
| K        |          |           |              |            |           |           |        |            |     |            |     |            |       |
| N        |          |           |              |            |           |           |        | 24         |     | 22         |     | 22         | 15 20 |
| S        |          |           |              |            |           |           |        |            |     |            |     |            |       |
| H        |          |           |              |            |           |           |        |            |     |            |     |            |       |
| O        |          |           |              |            |           |           |        |            |     |            |     |            |       |

Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

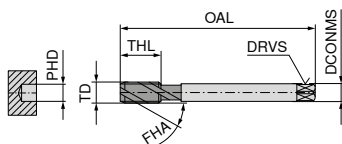
CavTap

M



DIN 371 with reinforced shank

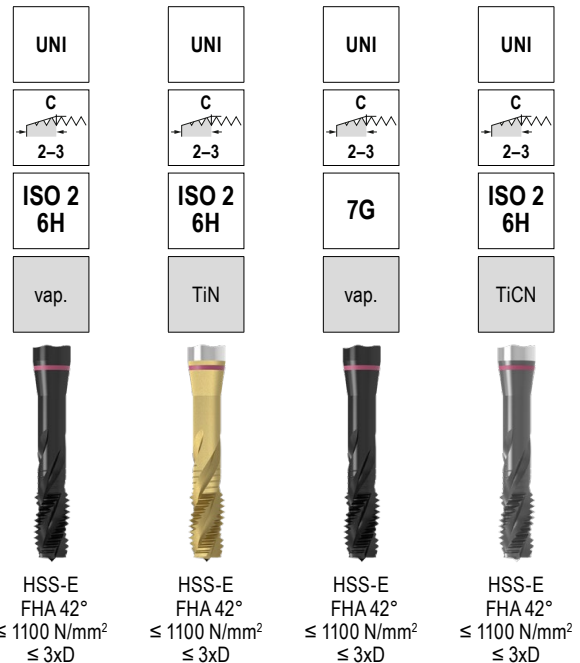
| TD   | TP   | OAL | DCONMS | DRVS | PHD   | THL  | LU | Flutes |
|------|------|-----|--------|------|-------|------|----|--------|
| mm   | mm   | mm  | mm     | mm   | mm    | mm   | mm |        |
| M2   | 0.40 | 45  | 2.8    | 2.1  | 1.60  | 4.0  | 12 | 2      |
| M2,2 | 0.45 | 45  | 2.8    | 2.1  | 1.75  | 4.5  | 12 | 2      |
| M2,3 | 0.40 | 45  | 2.8    | 2.1  | 1.90  | 4.5  | 12 | 2      |
| M2,5 | 0.45 | 50  | 2.8    | 2.1  | 2.05  | 5.0  | 15 | 2      |
| M2,6 | 0.45 | 50  | 2.8    | 2.1  | 2.15  | 5.0  | 15 | 2      |
| M3   | 0.50 | 56  | 3.5    | 2.7  | 2.50  | 6.0  | 18 | 3      |
| M3,5 | 0.60 | 56  | 4.0    | 3.0  | 2.90  | 7.0  | 20 | 3      |
| M4   | 0.70 | 63  | 4.5    | 3.4  | 3.30  | 7.0  | 21 | 3      |
| M5   | 0.80 | 70  | 6.0    | 4.9  | 4.20  | 8.0  | 25 | 3      |
| M6   | 1.00 | 80  | 6.0    | 4.9  | 5.00  | 10.0 | 30 | 3      |
| M7   | 1.00 | 80  | 7.0    | 5.5  | 6.00  | 10.0 | 30 | 3      |
| M8   | 1.25 | 90  | 8.0    | 6.2  | 6.80  | 14.0 | 35 | 3      |
| M10  | 1.50 | 100 | 10.0   | 8.0  | 8.50  | 16.0 | 39 | 3      |
| M12  | 1.75 | 110 | 12.0   | 9.0  | 10.20 | 18.0 | 44 | 3      |



DIN 376 with reduced shank

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes |
|-----|------|-----|--------|------|------|-----|--------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |        |
| M3  | 0.50 | 56  | 2.2    | 2.1  | 2.5  | 6   | 3      |
| M4  | 0.70 | 63  | 2.8    | 2.1  | 3.3  | 7   | 3      |
| M5  | 0.80 | 70  | 3.5    | 2.7  | 4.2  | 8   | 3      |
| M6  | 1.00 | 80  | 4.5    | 3.4  | 5.0  | 10  | 3      |
| M8  | 1.25 | 90  | 6.0    | 4.9  | 6.8  | 14  | 3      |
| M10 | 1.50 | 100 | 7.0    | 5.5  | 8.5  | 16  | 3      |
| M12 | 1.75 | 110 | 9.0    | 7.0  | 10.2 | 18  | 3      |
| M14 | 2.00 | 110 | 11.0   | 9.0  | 12.0 | 20  | 3      |
| M16 | 2.00 | 110 | 12.0   | 9.0  | 14.0 | 22  | 3      |
| M18 | 2.50 | 125 | 14.0   | 11.0 | 15.5 | 25  | 3      |
| M20 | 2.50 | 140 | 16.0   | 12.0 | 17.5 | 25  | 3      |
| M22 | 2.50 | 140 | 18.0   | 14.5 | 19.5 | 27  | 4      |
| M24 | 3.00 | 160 | 18.0   | 14.5 | 21.0 | 30  | 4      |
| M27 | 3.00 | 160 | 20.0   | 16.0 | 24.0 | 30  | 4      |
| M30 | 3.50 | 180 | 22.0   | 18.0 | 26.5 | 35  | 4      |
| M33 | 3.50 | 180 | 25.0   | 20.0 | 29.5 | 35  | 4      |
| M36 | 4.00 | 200 | 28.0   | 22.0 | 32.0 | 40  | 4      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 12 | 15 | 12 | 15 |
| M | 7  | 9  | 7  | 9  |
| K | 12 | 18 | 12 | 18 |
| N |    | 12 |    | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Cutting speed  $v_c$  (m/min.)

22 518 ...

£

U0

46.83

52.76

57.21

43.92

54.26

40.07

43.00

40.79

40.72

42.40

64.75

48.17

59.03

67.53

020

022

023

025

026

030

035

040

050

060

070

080

100

120

22 520 ...

£

U0

68.47

48.89

52.23

53.51

62.92

47.97

49.97

68.47

69.57

83.23

103.55

030

040

050

060

070

080

100

120

22 532 ...

£

U0

45.60

47.97

49.97

68.47

78.20

118.06

030

040

050

060

080

100

120

22 522 ...

£

U0

48.53

52.23

53.12

62.92

69.13

83.23

103.55

030

040

050

060

080

100

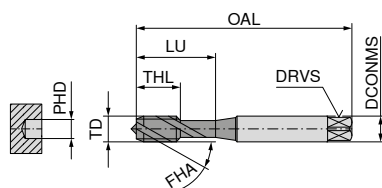
120

## Blind hole – Machine taps, right hand

▲ NCW = with Weldon flat for synchronised CNC machining without length compensation chuck

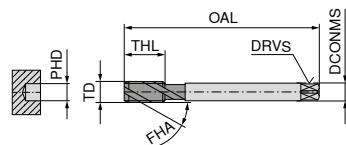
CavTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 6         | 18       | 3      |
| M3       | 0.50     | 70        | 6.0          | 4.9        | 2.5       | 6         | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 7         | 21       | 3      |
| M4       | 0.70     | 70        | 6.0          | 4.9        | 3.3       | 7         | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 8         | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 10        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 14        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 16        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7.0        | 10.2      | 18        | 4      |
| M12      | 1.75     | 110       | 10           | 8.0        | 10.2      | 18        | 3      |
| M14      | 2.00     | 110       | 11           | 9.0        | 12.0      | 20        | 4      |
| M16      | 2.00     | 110       | 12           | 9.0        | 14.0      | 22        | 3      |
| M16      | 2.00     | 110       | 12           | 9.0        | 14.0      | 22        | 4      |
| M18      | 2.50     | 125       | 14           | 11.0       | 15.5      | 25        | 4      |
| M20      | 2.50     | 140       | 16           | 12.0       | 17.5      | 25        | 4      |
| M22      | 2.50     | 140       | 18           | 14.5       | 19.5      | 27        | 5      |
| M24      | 3.00     | 160       | 18           | 14.5       | 21.0      | 30        | 5      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 15 | 12 | 12 | 15 |
| M | 8  | 7  | 7  | 9  |
| K | 15 | 12 | 12 | 18 |
| N | 22 |    |    | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

| UNI<br>NCW                                 | UNI                                       | UNI                                       | UNI                                       |
|--------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| C<br>2-3                                   | E<br>1,5-2                                | E<br>1,5-2                                | E<br>1,5-2                                |
| ISO 2<br>6H                                | ISO 2<br>6H                               | ISO 2<br>6H                               | ISO 2<br>6H                               |
| TiN                                        | vap.                                      | vap.                                      | TiN                                       |
|                                            |                                           |                                           |                                           |
| HSS-PM<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD |

22 149 ...

£  
U0

22 524 ...

£  
U0

22 534 ...

£  
U0

22 526 ...

£  
U0

83.23 030

40.97 030

47.97 030

41.88 040

41.88 040

52.23 040

90.42 040

90.42 040

92.11 050

43.00 050

43.00 050

66.43 050

53.51 050

92.11 060

63.67 060

62.92 060

114.21 080

49.79 080

69.57 080

129.68 100

60.70 100

87.79 100

158.11 100

83.23 100

22 149 ...

£  
U0

22 525 ...

£  
U0

22 535 ...

£  
U0

22 527 ...

£  
U0

187.62 120

75.85 120

97.97 120

98.71 120

256.43 160

143.33 140

145.68 140

107.72 160

107.72 160

146.48 160

143.33 160

228.01 180

216.56 200

243.51 200

160.84 200

313.19 220

273.23 240

313.19 220

273.23 240

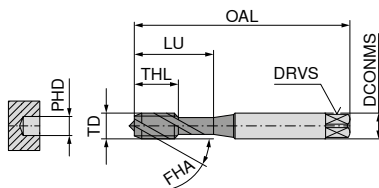
Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck

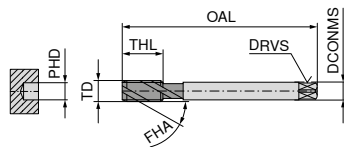
CavTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 6         | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 7         | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 8         | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 10        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 14        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 16        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 18        | 3      |
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 18        | 4      |
| M14      | 2.00     | 110       | 11           | 9          | 12.0      | 20        | 3      |
| M14      | 2.00     | 110       | 11           | 9          | 12.0      | 20        | 4      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 3      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 4      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 25        | 3      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 25        | 4      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 15 | 15 | 15 | 15 |
| M | 9  | 9  | 9  | 9  |
| K | 18 | 18 | 18 | 18 |
| N | 22 | 12 | 12 | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Cutting speed  $v_c$  (m/min.)

|               |             |             |            |
|---------------|-------------|-------------|------------|
| UNI<br>CNC    | UNI<br>CNC  | UNI<br>CNC  | UNI<br>CNC |
| C<br>2-3      | C<br>2-3    | E<br>1,5-2  | C<br>2-3   |
| ISO 2X<br>6HX | ISO 2<br>6H | ISO 2<br>6H | 7G         |
| TiN           | TiN GS      | TiN GS      | TiN GS     |

HSS-E  
FHA 50°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 45°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 45°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 45°  
≤ 1100 N/mm²  
≤ 3xD

22 416 ...

£  
U0

030

22 544 ...

£  
U0

030

22 546 ...

£  
U0

050

22 594 ...

£  
U0

030

22 417 ...

£  
U0

120

22 545 ...

£  
U0

120

22 595 ...

£  
U0

120

## Blind hole – Machine taps, right hand

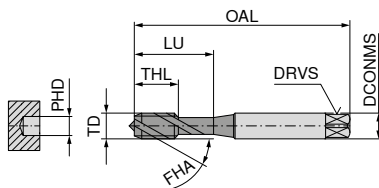
▲ DRY = for dry machining or minimum quantity lubrication (MMS)

CavTap

M

UNI  
DRYC  
2-3ISO 2  
6H

TiN

HSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

DIN 371 with reinforced shank

22 449 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M5       | 0.80     | 70        | 6            | 4.9        | 4.2       | 8         | 25       | 3      |
| M6       | 1.00     | 80        | 6            | 4.9        | 5.0       | 10        | 30       | 3      |
| M8       | 1.25     | 90        | 8            | 6.2        | 6.8       | 14        | 35       | 3      |
| M10      | 1.50     | 100       | 10           | 8.0        | 8.5       | 16        | 39       | 3      |

£

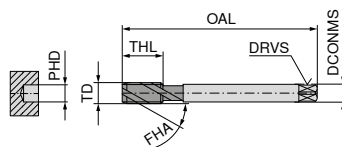
U0

101.39 050

118.00 060

130.19 080

158.12 100



DIN 376 with reduced shank

22 450 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 18        | 4      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 4      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 25        | 4      |

£

U0

171.46 120

244.10 160

399.08 200

|   |    |
|---|----|
| P | 12 |
| M |    |
| K | 12 |
| N | 22 |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

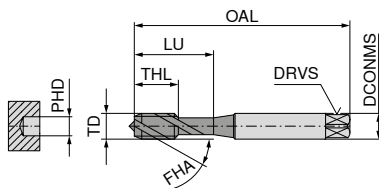
## Blind hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck

▲ TS = for high-speed machining, up to 100 m/min.

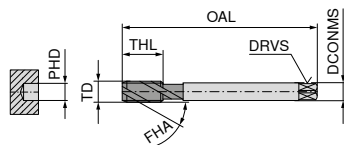
CavTap  
SL

M



DIN 371 with reinforced shank

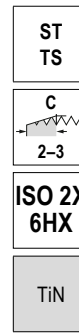
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 6         | 18       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 11        | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 7         | 21       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 13        | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 8         | 25       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 10        | 30       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 14        | 35       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 16        | 39       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 22        | 39       | 3      |
| M12      | 1.75     | 110       | 12.0         | 9.0        | 10.2      | 24        | 44       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 18        | 3      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 3      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 25        | 3      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 65 | 12 | 8  | 12 |
| M |    | 8  | 8  | 8  |
| K | 65 | 20 |    | 20 |
| N | 22 | 22 | 10 | 22 |
| S |    |    | 4  |    |
| H |    |    |    |    |
| O |    |    |    |    |

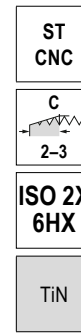
Cutting speed  $v_c$  (m/min.)HSS-E  
FHA 15°  
≤ 1050 N/mm²  
≤ 2xD

22 406 ...

£  
U0

69.58

030

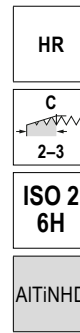
HSS-E  
FHA 15°  
≤ 1100 N/mm²  
≤ 2xD

22 328 ...

£  
U0

63.61

030

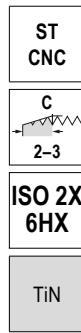
HSS-PM  
FHA 25°  
≤ 1400 N/mm²  
≤ 2xD

22 469 ...

£  
U0

45.55

03000

HSS-E  
FHA 15°  
≤ 1100 N/mm²  
≤ 2xD

22 443 ...

£  
U0

101.39

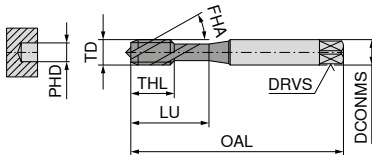
050

## Blind hole – Machine taps

▲ LH = for left hand threads

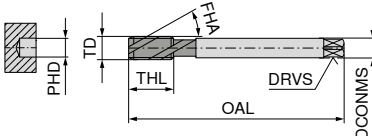
CavTap

M



DIN 371 with reinforced shank

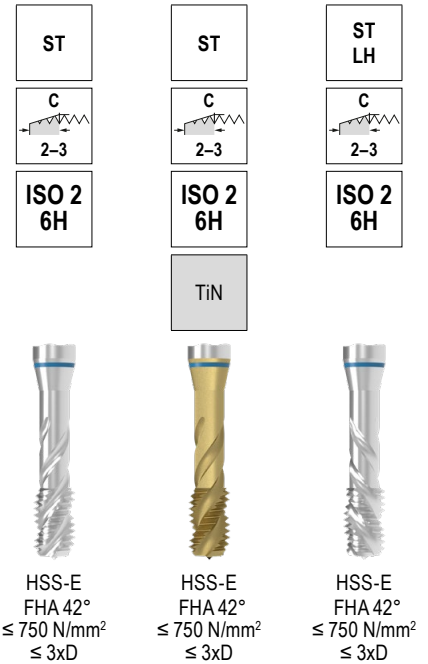
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL  | LU | Flutes |
|------|------|-----|--------|------|------|------|----|--------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm   | mm |        |
| M2   | 0.40 | 45  | 2.8    | 2.1  | 1.60 | 4.0  | 12 | 2      |
| M2,3 | 0.40 | 45  | 2.8    | 2.1  | 1.90 | 4.5  | 12 | 2      |
| M2,5 | 0.45 | 50  | 2.8    | 2.1  | 2.05 | 5.0  | 15 | 2      |
| M3   | 0.50 | 56  | 3.5    | 2.7  | 2.50 | 6.0  | 18 | 3      |
| M3,5 | 0.60 | 56  | 4.0    | 3.0  | 2.90 | 7.0  | 20 | 3      |
| M4   | 0.70 | 63  | 4.5    | 3.4  | 3.30 | 7.0  | 21 | 3      |
| M5   | 0.80 | 70  | 6.0    | 4.9  | 4.20 | 8.0  | 25 | 3      |
| M6   | 1.00 | 80  | 6.0    | 4.9  | 5.00 | 10.0 | 30 | 3      |
| M8   | 1.25 | 90  | 8.0    | 6.2  | 6.80 | 14.0 | 35 | 3      |
| M10  | 1.50 | 100 | 10.0   | 8.0  | 8.50 | 16.0 | 39 | 3      |



DIN 376 with reduced shank

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes |
|-----|------|-----|--------|------|------|-----|--------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |        |
| M3  | 0.50 | 56  | 2.2    | 2.1  | 2.5  | 6   | 3      |
| M4  | 0.70 | 63  | 2.8    | 2.1  | 3.3  | 7   | 3      |
| M5  | 0.80 | 70  | 3.5    | 2.7  | 4.2  | 8   | 3      |
| M6  | 1.00 | 80  | 4.5    | 3.4  | 5.0  | 10  | 3      |
| M8  | 1.25 | 90  | 6.0    | 4.9  | 6.8  | 14  | 3      |
| M10 | 1.50 | 100 | 7.0    | 5.5  | 8.5  | 16  | 3      |
| M12 | 1.75 | 110 | 9.0    | 7.0  | 10.2 | 18  | 3      |
| M14 | 2.00 | 110 | 11.0   | 9.0  | 12.0 | 20  | 3      |
| M16 | 2.00 | 110 | 12.0   | 9.0  | 14.0 | 22  | 3      |
| M18 | 2.50 | 125 | 14.0   | 11.0 | 15.5 | 25  | 3      |
| M20 | 2.50 | 140 | 16.0   | 12.0 | 17.5 | 25  | 3      |

|   |    |    |    |
|---|----|----|----|
| P | 12 | 15 | 12 |
| M |    |    |    |
| K | 12 | 15 | 12 |
| N | 12 | 15 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Cutting speed  $v_c$  (m/min.)

22 082 ...

| £     |     |
|-------|-----|
| U0    |     |
| 44.85 | 020 |
| 49.28 | 023 |
| 42.56 | 025 |
| 37.65 | 030 |
| 41.46 | 035 |
| 37.65 | 040 |
| 38.38 | 050 |
| 40.07 | 060 |
| 47.59 | 080 |
| 54.67 | 100 |

22 084 ...

| £     |     |
|-------|-----|
| U0    |     |
| 64.98 | 020 |
| 45.75 | 030 |
| 48.71 | 040 |
| 49.28 | 050 |
| 60.51 | 060 |
| 66.06 | 080 |
| 90.87 | 100 |

22 138 ...

| £     |     |
|-------|-----|
| U0    |     |
| 74.52 | 030 |
| 66.06 | 040 |
| 72.16 | 050 |
| 69.57 | 060 |
| 84.49 | 080 |
| 97.23 | 100 |

22 083 ...

| £      |     |
|--------|-----|
| U0     |     |
| 49.26  | 030 |
| 49.79  | 040 |
| 51.29  | 050 |
| 60.88  | 060 |
| 56.66  | 080 |
| 72.16  | 120 |
| 89.05  | 140 |
| 99.06  | 160 |
| 145.55 | 180 |
| 149.42 | 200 |

22 085 ...

| £      |     |
|--------|-----|
| U0     |     |
| 114.38 | 100 |
| 108.46 | 120 |
| 139.46 | 160 |
| 235.38 | 200 |

22 139 ...

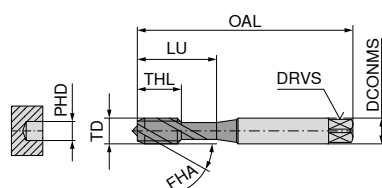
| £      |     |
|--------|-----|
| U0     |     |
| 134.27 | 120 |
| 195.92 | 160 |
| 287.41 | 200 |

## Blind hole – Machine taps, right hand

▲ TS = for high-speed machining, up to 100 m/min.

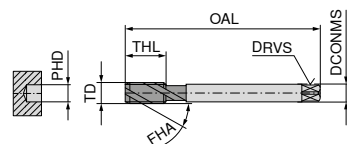
CavTap

M



DIN 371 with reinforced shank

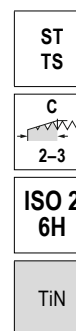
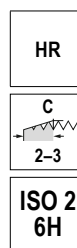
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 6         | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 7         | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 8         | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 10        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 14        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 16        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 18        | 4      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 4      |

|   |   |    |    |    |
|---|---|----|----|----|
| P | 6 | 8  | 65 | 65 |
| M | 6 | 8  |    |    |
| K |   |    | 65 | 65 |
| N | 8 | 12 | 75 | 75 |
| S |   |    |    |    |
| H |   |    |    |    |
| O |   |    |    |    |

Cutting speed  $v_c$  (m/min.)HSS-PM  
FHA 42°  
≤ 1400 N/mm²  
≤ 3xDHSS-PM  
FHA 42°  
≤ 1400 N/mm²  
≤ 3xDHSS-E  
FHA 40°  
≤ 1100 N/mm²  
≤ 2xDHSS-E  
FHA 40°  
≤ 1100 N/mm²  
≤ 2xD

22 498 ...

| £<br>U0 |     |
|---------|-----|
| 43.92   | 030 |
| 41.15   | 040 |
| 42.40   | 050 |
| 42.56   | 060 |
| 51.05   | 080 |
| 61.06   | 100 |

22 499 ...

| £<br>U0 |     |
|---------|-----|
| 55.21   | 030 |
| 55.21   | 040 |
| 58.83   | 050 |
| 61.63   | 060 |
| 76.38   | 080 |
| 87.25   | 100 |

22 046 ...

| £<br>U0 |     |
|---------|-----|
| 122.90  | 050 |
| 160.51  | 060 |
| 163.07  | 080 |
| 221.95  | 100 |

22 044 ...

| £<br>U0 |     |
|---------|-----|
| 71.59   | 040 |
| 78.22   | 050 |
| 81.91   | 060 |
| 93.53   | 080 |
| 114.57  | 100 |

22 045 ...

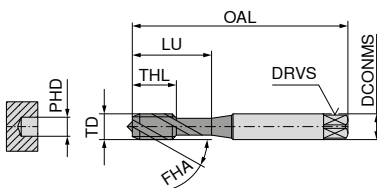
| £<br>U0 |     |
|---------|-----|
| 138.01  | 120 |
| 199.61  | 160 |



## Blind hole – Machine taps, right hand

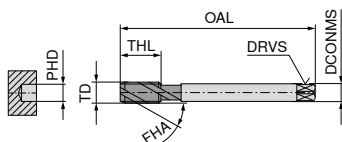
CavTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M1,6     | 0.35     | 40        | 2.5          | 2.1        | 1.25      | 4         | 11       | 2      |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 4         | 12       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 5         | 15       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 5         | 15       | 3      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 6         | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 7         | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 8         | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 10        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 14        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 16        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7.0        | 10.2      | 18        | 4      |
| M14      | 2.00     | 110       | 11           | 9.0        | 12.0      | 20        | 4      |
| M16      | 2.00     | 110       | 12           | 9.0        | 14.0      | 22        | 4      |
| M20      | 2.50     | 140       | 16           | 12.0       | 17.5      | 25        | 4      |
| M22      | 2.50     | 140       | 18           | 14.5       | 19.5      | 27        | 5      |
| M24      | 3.00     | 160       | 18           | 14.5       | 21.0      | 30        | 5      |
| M30      | 3.50     | 180       | 22           | 18.0       | 26.5      | 35        | 5      |

|   |   |    |    |
|---|---|----|----|
| P | 8 | 10 | 10 |
| M | 6 | 8  | 8  |
| K |   |    |    |
| N |   |    |    |
| S |   |    |    |
| H |   |    |    |
| O |   |    |    |

Cutting speed  $v_c$  (m/min.)

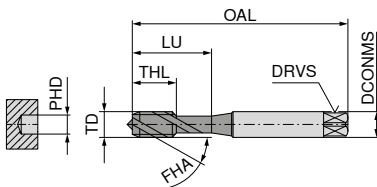
|                                          |                                          |                                          |
|------------------------------------------|------------------------------------------|------------------------------------------|
| VA                                       | VA                                       | VA                                       |
| C<br>2-3                                 | E<br>1,5-2                               | C<br>2-3                                 |
| ISO 2<br>6H                              | ISO 2<br>6H                              | ISO 2<br>6H                              |
| vap.                                     | TiN GS                                   | TiN GS                                   |
|                                          |                                          |                                          |
| HSS-E<br>FHA 42°<br>≤ 900 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 900 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 900 N/mm²<br>≤ 3xD |
| 22 090 ...                               | 22 042 ...                               | 22 040 ...                               |
| £<br>U0                                  | £<br>U0                                  | £<br>U0                                  |
| 70.38 020                                |                                          | 114.21 016                               |
| 56.66 025                                |                                          | 63.46 020                                |
|                                          |                                          | 60.81 025                                |
| 42.40 030                                |                                          | 66.43 030                                |
| 43.92 040                                |                                          | 66.06 040                                |
| 44.47 050                                | 98.08 050                                | 69.13 050                                |
| 44.36 060                                | 101.10 060                               | 72.16 060                                |
| 51.77 080                                | 127.49 080                               | 91.11 080                                |
| 63.27 100                                | 147.96 100                               | 104.06 100                               |

|            |            |
|------------|------------|
| 22 091 ... | 22 041 ... |
| £<br>U0    | £<br>U0    |
| 78.22 120  | 140.77 120 |
| 115.14 140 | 168.97 140 |
| 110.88 160 | 187.62 160 |
| 165.66 200 | 268.96 200 |
| 355.25 220 |            |
| 210.30 240 |            |
| 444.94 300 |            |

## Blind hole – Machine taps, right hand

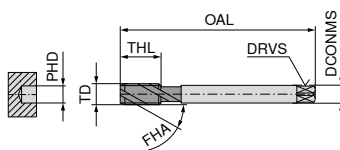
CavTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 4         | 12       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 5         | 15       | 2      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 5         | 14       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 6         | 18       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 6         | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 7         | 21       | 2      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 7         | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 8         | 25       | 2      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 8         | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 10        | 30       | 2      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 10        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 14        | 35       | 2      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 14        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 16        | 39       | 2      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 16        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 18        | 3      |
| M14      | 2.00     | 110       | 11           | 9          | 12.0      | 20        | 3      |
| M16      | 2.00     | 110       | 12           | 9          | 14.0      | 22        | 3      |
| M20      | 2.50     | 140       | 16           | 12         | 17.5      | 25        | 3      |

22 461 ...

£

U0

|     |      |     |    |    |      |    |   |        |       |
|-----|------|-----|----|----|------|----|---|--------|-------|
| M12 | 1.75 | 110 | 9  | 7  | 10.2 | 18 | 3 | 77.69  | 12000 |
| M14 | 2.00 | 110 | 11 | 9  | 12.0 | 20 | 3 | 111.58 | 14000 |
| M16 | 2.00 | 110 | 12 | 9  | 14.0 | 22 | 3 | 108.37 | 16000 |
| M20 | 2.50 | 140 | 16 | 12 | 17.5 | 25 | 3 | 155.38 | 20000 |

|   |    |    |
|---|----|----|
| P | 15 | 15 |
| M |    |    |
| K |    |    |
| N | 22 | 22 |
| S |    | 15 |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

|                                          |                                          |                                          |                                          |
|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| Soft                                     | Soft                                     | NW                                       | NW                                       |
| C<br>2-3                                 | C<br>2-3                                 | C<br>2-3                                 | C<br>2-3                                 |
| ISO 2<br>6H                              | ISO 2<br>6H                              | ISO 2<br>6H                              | ISO 2<br>6H                              |
|                                          | CH                                       | vap.                                     | DLC                                      |
|                                          |                                          |                                          |                                          |
| HSS-E<br>FHA 42°<br>≤ 500 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 500 N/mm²<br>≤ 3xD | HSS-E<br>FHA 38°<br>≤ 500 N/mm²<br>≤ 3xD | HSS-E<br>FHA 38°<br>≤ 880 N/mm²<br>≤ 3xD |

22 326 ...

£

U0

61.85 020

58.00 025

47.33 030

47.33 040

49.04 050

49.04 060

58.52 080

68.98 100

22 324 ...

£

U0

83.55 020

80.81 025

70.18 030

75.84 040

78.55 050

108.49 060

118.00 080

148.02 100

22 086 ...

£

U0

49.82 020

46.16 025

37.65 030

37.65 040

41.15 050

40.07 060

47.59 080

55.71 100

22 460 ...

£

U0

55.56 02000

55.56 02500

45.13 03000

46.43 04000

46.43 05000

47.74 06000

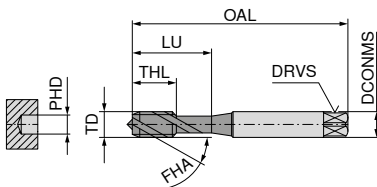
53.90 08000

61.46 10000

## Blind hole – Machine taps, right hand

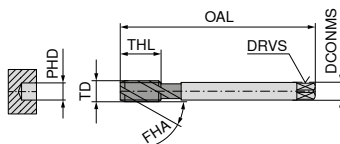
CavTap  
SL

M



DIN 371 with reinforced shank

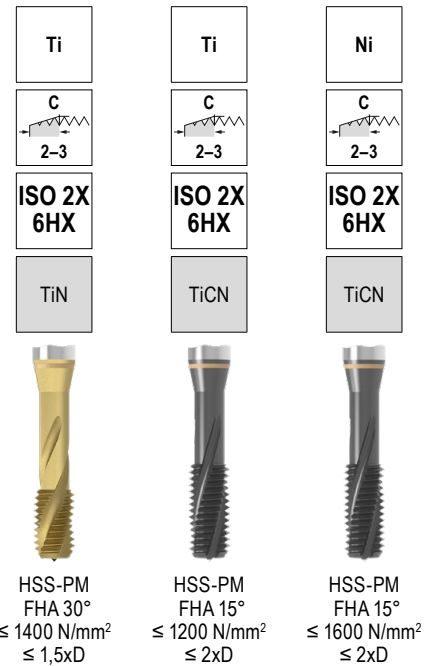
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 11        | 18       | 2      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.5       | 6         | 18       | 3      |
| M3,5     | 0.60     | 56        | 4.0          | 3.0        | 2.9       | 12        | 20       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 7         | 21       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.3       | 13        | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 8         | 25       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.2       | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 10        | 30       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.0       | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 14        | 35       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.8       | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 16        | 39       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.5       | 22        | 39       | 3      |
| M12      | 1.75     | 110       | 12.0         | 9.0        | 10.2      | 18        | 44       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7.0        | 10.2      | 24        | 3      |
| M14      | 2.00     | 110       | 11           | 9.0        | 12.0      | 26        | 3      |
| M16      | 2.00     | 110       | 12           | 9.0        | 14.0      | 27        | 3      |
| M20      | 2.50     | 140       | 16           | 12.0       | 17.5      | 32        | 3      |
| M24      | 3.00     | 160       | 18           | 14.5       | 21.0      | 34        | 3      |

|   |   |    |
|---|---|----|
| P | 7 | 7  |
| M | 7 | 7  |
| K |   |    |
| N |   | 22 |
| S | 5 | 5  |
| H |   |    |
| O |   |    |

Cutting speed  $v_c$  (m/min.)

| £<br>U0 |     | £<br>U0 |     | £<br>U0 |     |
|---------|-----|---------|-----|---------|-----|
| 61.37   | 030 | 61.37   | 030 | 85.83   | 030 |
| 67.14   | 035 | 67.14   | 035 |         |     |
| 64.02   | 040 | 68.47   | 040 | 89.68   | 040 |
| 64.56   | 050 | 69.01   | 050 | 93.04   | 050 |
| 69.72   | 060 | 92.24   | 060 | 117.01  | 060 |
| 76.22   | 080 | 100.36  | 080 | 128.08  | 080 |
| 106.24  | 100 | 123.61  | 100 | 160.41  | 100 |
| 119.90  | 120 |         |     |         |     |

## Blind hole – Machine taps, right hand

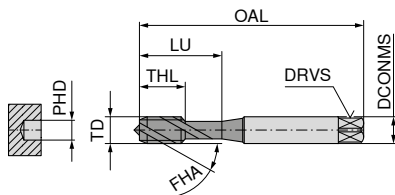
▲ ES = extra short

CavTap

M

UNI  
ESISO 2  
6H

vap.



DIN 352 with reinforced shank

HSS-E  
FHA 42°  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 500 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 40        | 3.5          | 2.7        | 2.5       | 6         | 18       | 3      |
| M4       | 0.70     | 45        | 4.5          | 3.4        | 3.3       | 7         | 22       | 3      |
| M5       | 0.80     | 50        | 6.0          | 4.9        | 4.2       | 9         | 25       | 3      |
| M6       | 1.00     | 56        | 6.0          | 4.9        | 5.0       | 10        | 28       | 3      |
| M8       | 1.25     | 63        | 6.0          | 4.9        | 6.8       | 14        |          | 3      |
| M10      | 1.50     | 70        | 7.0          | 5.5        | 8.5       | 16        |          | 3      |
| M12      | 1.75     | 75        | 9.0          | 7.0        | 10.2      | 18        |          | 4      |
| M16      | 2.00     | 80        | 12.0         | 9.0        | 14.0      | 22        |          | 4      |

£

U0

35.79

030

36.33

040

35.79

050

39.31

060

45.01

080

51.67

100

66.77

120

105.88

160

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

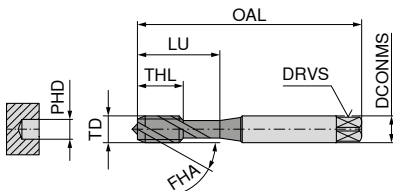
Cutting speed v<sub>c</sub> (m/min.)

## Blind hole – Machine taps, right hand

▲ ES = extra short

CavTap  
SL

M

ST  
ESC  
2-3ISO 2  
6H

DIN 352 with reinforced shank

HSS-E  
FHA 15°  
≤ 750 N/mm²  
≤ 2xD

22 016 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 40        | 3.5          | 2.7        | 2.5       | 10        | 18       | 2      |
| M4       | 0.70     | 45        | 4.5          | 3.4        | 3.3       | 12        | 22       | 3      |
| M5       | 0.80     | 50        | 6.0          | 4.9        | 4.2       | 14        | 25       | 3      |
| M6       | 1.00     | 56        | 6.0          | 4.9        | 5.0       | 16        | 28       | 3      |
| M8       | 1.25     | 63        | 6.0          | 4.9        | 6.8       | 20        |          | 3      |
| M10      | 1.50     | 70        | 7.0          | 5.5        | 8.5       | 22        |          | 3      |
| M12      | 1.75     | 75        | 9.0          | 7.0        | 10.2      | 24        |          | 3      |

£

U0

|       |     |
|-------|-----|
| 32.09 | 030 |
| 31.86 | 040 |
| 32.94 | 050 |
| 33.66 | 060 |
| 38.38 | 080 |
| 49.28 | 100 |
| 62.63 | 120 |

|   |    |
|---|----|
| P | 12 |
| M |    |
| K | 12 |
| N | 12 |
| S |    |
| H |    |
| O |    |

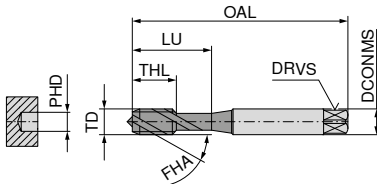
Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

▲ EL = extra long, with double overall length

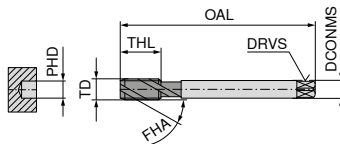
CavTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 100       | 3.5          | 2.7        | 2.5       | 6         | 18       | 3      |
| M4       | 0.70     | 125       | 4.5          | 3.4        | 3.3       | 7         | 21       | 3      |
| M5       | 0.80     | 140       | 6.0          | 4.9        | 4.2       | 8         | 25       | 3      |
| M6       | 1.00     | 160       | 6.0          | 4.9        | 5.0       | 10        | 30       | 3      |
| M8       | 1.25     | 180       | 8.0          | 6.2        | 6.8       | 14        | 35       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M6       | 1.00     | 160       | 4.5          | 3.4        | 5.0       | 10        | 3      |
| M8       | 1.25     | 180       | 6.0          | 4.9        | 6.8       | 14        | 3      |
| M10      | 1.50     | 200       | 7.0          | 5.5        | 8.5       | 16        | 3      |
| M12      | 1.75     | 224       | 9.0          | 7.0        | 10.2      | 18        | 3      |
| M14      | 2.00     | 224       | 11.0         | 9.0        | 12.0      | 20        | 3      |
| M16      | 2.00     | 224       | 12.0         | 9.0        | 14.0      | 22        | 3      |
| M18      | 2.50     | 250       | 14.0         | 11.0       | 15.5      | 25        | 3      |
| M20      | 2.50     | 280       | 16.0         | 12.0       | 17.5      | 25        | 3      |

|   |    |    |
|---|----|----|
| P | 12 | 12 |
| M |    | 7  |
| K | 12 | 12 |
| N | 22 |    |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)ST  
ELC  
2-3ISO 2  
6HHSS-E  
FHA 42°  
≤ 750 N/mm²  
≤ 3xD

22 422 ...

£

U0

91.27

030

89.17

040

99.63

050

103.65

060

124.80

080

UNI  
ELC  
2-3ISO 2  
6H

vap.

HSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

22 538 ...

£

U0

72.86

030

72.74

040

81.80

050

85.97

060

97.97

080

22 539 ...

£

U0

109.38

060

132.09

080

114.21

100

141.88

120

247.03

140

208.29

160

386.84

180

330.19

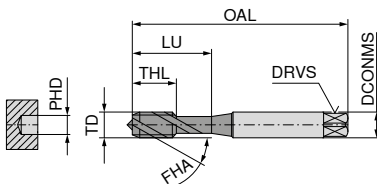
200

## Blind hole – Machine taps, right hand

▲ EL = extra long, with double overall length

CavTap  
SL

M

ST  
ELISO 2  
6H

DIN 371 with reinforced shank

HSS-E  
FHA 15°  
≤ 750 N/mm²  
≤ 2xD

22 078 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 100       | 3.5          | 2.7        | 2.5       | 11        | 18       | 2      |
| M4       | 0.70     | 125       | 4.5          | 3.4        | 3.3       | 13        | 21       | 3      |
| M5       | 0.80     | 140       | 6.0          | 4.9        | 4.2       | 15        | 25       | 3      |
| M6       | 1.00     | 160       | 6.0          | 4.9        | 5.0       | 17        | 30       | 3      |
| M8       | 1.25     | 180       | 8.0          | 6.2        | 6.8       | 20        | 35       | 3      |

£

U0

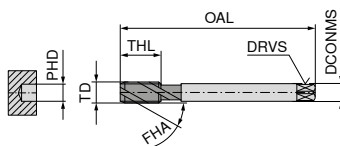
69.67 030

69.67 040

80.08 050

84.12 060

98.66 080



DIN 376 with reduced shank

22 080 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M6       | 1.00     | 160       | 4.5          | 3.4        | 5.0       | 17        | 3      |
| M8       | 1.25     | 180       | 6.0          | 4.9        | 6.8       | 20        | 3      |
| M10      | 1.50     | 200       | 7.0          | 5.5        | 8.5       | 22        | 3      |
| M12      | 1.75     | 224       | 9.0          | 7.0        | 10.2      | 24        | 3      |
| M14      | 2.00     | 224       | 11.0         | 9.0        | 12.0      | 26        | 3      |
| M16      | 2.00     | 224       | 12.0         | 9.0        | 14.0      | 27        | 3      |
| M20      | 2.50     | 280       | 16.0         | 12.0       | 17.5      | 32        | 3      |

£

U0

85.97 060

102.95 080

110.32 100

140.20 120

203.13 140

202.72 160

280.74 200

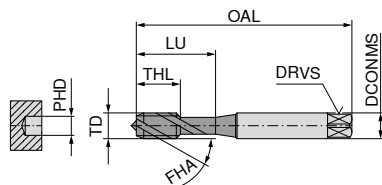
|   |    |
|---|----|
| P | 12 |
| M |    |
| K | 12 |
| N | 12 |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

▲ NC = for synchronised CNC machining with minimum length compensation chuck

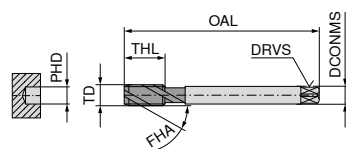
M



DIN 371 with reinforced shank

| UNI                                         | UNI                                         | UNI                                          | UNI                                       | UNI NC                                    |
|---------------------------------------------|---------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|
| C<br>2-3                                    | C<br>2-3                                    | C<br>2-3                                     | C<br>2-3                                  | C<br>2-3                                  |
| ISO 2<br>6H                                 | ISO 2<br>6H                                 | ISO 2<br>6H                                  | ISO 2<br>6H                               | ISO 2<br>6H                               |
| vap.                                        | TiN                                         | TiN                                          | TiCN                                      | TiN GS                                    |
|                                             |                                             |                                              |                                           |                                           |
| HSS-E<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-PM<br>FHA 50°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 45°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 1000 N/mm²<br>≤ 3xD |

|      |      |     |        |      |      |     |    |        | 23 118 ... | 23 120 ... | 23 026 ... | 23 122 ... | 23 124 ... |
|------|------|-----|--------|------|------|-----|----|--------|------------|------------|------------|------------|------------|
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Flutes | £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    |
| M2   | 0.40 | 45  | 2.8    | 2.1  | 1.60 | 4   | 12 | 2      | 36.33      | 41.46      |            |            |            |
| M2.5 | 0.45 | 50  | 2.8    | 2.1  | 2.05 | 5   | 14 | 2      | 34.93      | 40.79      |            |            |            |
| M3   | 0.50 | 56  | 3.5    | 2.7  | 2.50 | 6   | 18 | 3      | 27.70      | 34.77      | 16.62      | 36.59      | 39.31      |
| M4   | 0.70 | 63  | 4.5    | 3.4  | 3.30 | 7   | 21 | 3      | 28.80      | 38.92      | 16.62      | 39.31      | 40.72      |
| M5   | 0.80 | 70  | 6.0    | 4.9  | 4.20 | 8   | 25 | 3      | 29.71      | 40.21      | 17.91      | 40.79      | 43.72      |
| M6   | 1.00 | 80  | 6.0    | 4.9  | 5.00 | 10  | 30 | 3      | 31.37      | 50.08      | 20.74      | 51.77      | 59.03      |
| M8   | 1.25 | 90  | 8.0    | 6.2  | 6.80 | 14  | 35 | 3      | 35.50      | 54.67      | 24.61      | 56.66      | 63.46      |
| M10  | 1.50 | 100 | 10.0   | 8.0  | 8.50 | 16  | 39 | 3      | 40.62      | 73.28      | 30.99      | 71.59      | 80.64      |



DIN 376 with reduced shank

|     |      |     |        |      |      |     |        |       | 23 119 ... | 23 121 ... | 23 027 ... | 23 123 ... | 23 125 ... |
|-----|------|-----|--------|------|------|-----|--------|-------|------------|------------|------------|------------|------------|
| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes |       | £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    |
| M3  | 0.50 | 56  | 2.2    | 2.1  | 2.5  | 6   | 3      |       | 12.08      |            |            |            |            |
| M4  | 0.70 | 63  | 2.8    | 2.1  | 3.3  | 7   | 3      |       | 10.95      |            |            |            |            |
| M5  | 0.80 | 70  | 3.5    | 2.7  | 4.2  | 8   | 3      |       | 10.65      |            |            |            |            |
| M6  | 1.00 | 80  | 4.5    | 3.4  | 5.0  | 10  | 3      |       | 10.51      |            |            |            |            |
| M8  | 1.25 | 90  | 6.0    | 4.9  | 6.8  | 14  | 3      |       | 11.08      |            |            |            |            |
| M10 | 1.50 | 100 | 7.0    | 5.5  | 8.5  | 16  | 3      |       | 14.94      |            |            |            |            |
| M12 | 1.75 | 110 | 9.0    | 7.0  | 10.2 | 18  | 3      |       | 16.92      | 79.61      |            |            |            |
| M12 | 1.75 | 110 | 9.0    | 7.0  | 10.2 | 18  | 4      |       |            |            | 36.66      | 84.86      | 93.74      |
| M14 | 2.00 | 110 | 11.0   | 9.0  | 12.0 | 20  | 3      |       |            | 54.56      |            |            |            |
| M14 | 2.00 | 110 | 11.0   | 9.0  | 12.0 | 20  | 4      |       |            |            | 52.73      |            |            |
| M16 | 2.00 | 110 | 12.0   | 9.0  | 14.0 | 22  | 3      | 24.87 | 160        | 101.69     |            |            |            |
| M16 | 2.00 | 110 | 12.0   | 9.0  | 14.0 | 22  | 4      |       |            |            | 52.73      | 113.25     | 124.71     |
| M18 | 2.50 | 125 | 14.0   | 11.0 | 15.5 | 25  | 3      |       |            | 86.28      |            |            |            |
| M20 | 2.50 | 140 | 16.0   | 12.0 | 17.5 | 25  | 3      | 37.52 | 200        | 197.65     |            |            |            |
| M20 | 2.50 | 140 | 16.0   | 12.0 | 17.5 | 25  | 4      |       |            |            | 60.41      | 205.32     | 228.56     |
| M22 | 2.50 | 140 | 18.0   | 14.5 | 19.5 | 27  | 4      |       |            | 126.47     |            |            |            |
| M24 | 3.00 | 160 | 18.0   | 14.5 | 21.0 | 34  | 4      |       |            | 191.49     |            |            |            |
| M27 | 3.00 | 160 | 20.0   | 16.0 | 24.0 | 30  | 4      |       |            | 158.19     |            |            |            |
| M30 | 3.50 | 180 | 22.0   | 18.0 | 26.5 | 35  | 4      |       |            | 175.66     |            |            |            |
| M33 | 3.50 | 180 | 25.0   | 20.0 | 29.5 | 35  | 4      |       |            | 253.29     |            |            |            |
| M36 | 4.00 | 200 | 28.0   | 22.0 | 32.0 | 40  | 4      |       |            | 275.21     |            |            |            |

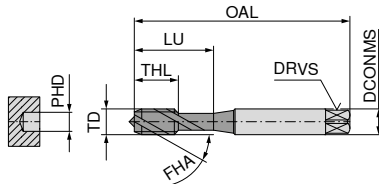
Cutting speed v<sub>c</sub> (m/min.)



## Blind hole – Machine taps, right hand

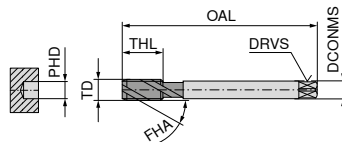
▲ NCW = with Weldon flat for synchronised CNC machining without length compensation chuck

M



DIN 371 with reinforced shank

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Flutes |
|------|------|-----|--------|------|------|-----|----|--------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |        |
| M2   | 0.40 | 45  | 2.8    | 2.1  | 1.60 | 4   | 12 | 2      |
| M2,5 | 0.45 | 50  | 2.8    | 2.1  | 2.05 | 5   | 14 | 2      |
| M3   | 0.50 | 56  | 3.5    | 2.7  | 2.50 | 6   | 18 | 3      |
| M3   | 0.50 | 70  | 6.0    | 4.9  | 2.50 | 6   | 18 | 3      |
| M4   | 0.70 | 63  | 4.5    | 3.4  | 3.30 | 7   | 21 | 3      |
| M4   | 0.70 | 70  | 6.0    | 4.9  | 3.30 | 7   | 21 | 3      |
| M5   | 0.80 | 70  | 6.0    | 4.9  | 4.20 | 8   | 25 | 3      |
| M6   | 1.00 | 80  | 6.0    | 4.9  | 5.00 | 10  | 30 | 3      |
| M8   | 1.25 | 90  | 8.0    | 6.2  | 6.80 | 14  | 35 | 3      |
| M10  | 1.50 | 100 | 10.0   | 8.0  | 8.50 | 16  | 39 | 3      |



DIN 376 with reduced shank

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes |
|-----|------|-----|--------|------|------|-----|--------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |        |
| M12 | 1.75 | 110 | 10     | 8.0  | 10.2 | 18  | 3      |
| M12 | 1.75 | 110 | 9      | 7.0  | 10.2 | 18  | 3      |
| M14 | 2.00 | 110 | 11     | 9.0  | 12.0 | 20  | 3      |
| M16 | 2.00 | 110 | 12     | 9.0  | 14.0 | 22  | 3      |
| M20 | 2.50 | 140 | 16     | 12.0 | 17.5 | 25  | 3      |
| M24 | 3.00 | 160 | 18     | 14.5 | 21.0 | 30  | 4      |

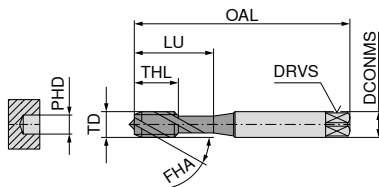
|   |    |    |    |    |
|---|----|----|----|----|
| P | 15 | 12 | 15 | 8  |
| M | 8  |    |    | 6  |
| K | 15 | 12 | 15 |    |
| N | 22 | 22 | 24 | 22 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Cutting speed  $v_c$  (m/min.)

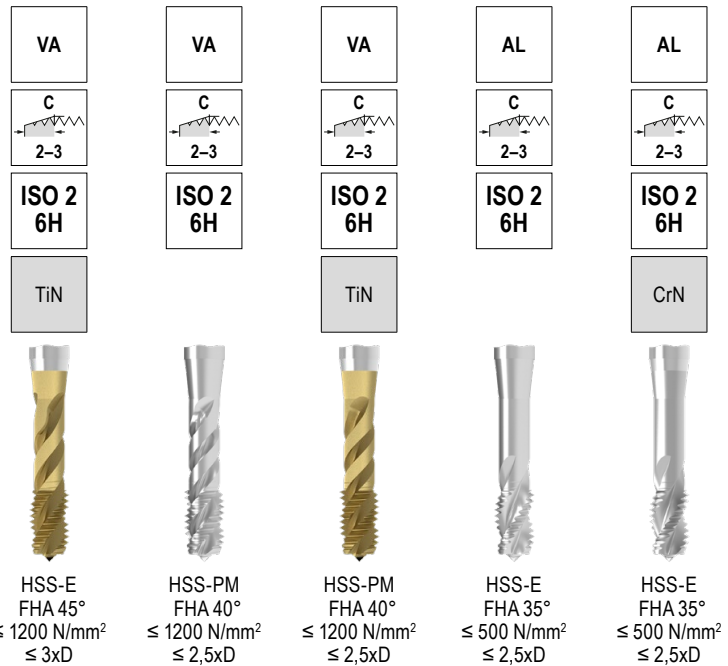
| UNI<br>NCW                                   | FE                                         | FE-HF                                       | VA                                          |
|----------------------------------------------|--------------------------------------------|---------------------------------------------|---------------------------------------------|
|                                              |                                            |                                             |                                             |
| ISO 2<br>6H                                  | ISO 2<br>6H                                | ISO 2<br>6H                                 | ISO 2<br>6H                                 |
| TiCN                                         |                                            | TiCN                                        |                                             |
|                                              |                                            |                                             |                                             |
| HSS-PM<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 850 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 1100 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 1200 N/mm²<br>≤ 2,5xD |
| 23 126 ...                                   | 23 216 ...                                 | 23 312 ...                                  | 23 414 ...                                  |
| £<br>T9                                      | £<br>T9                                    | £<br>T9                                     | £<br>T9                                     |
|                                              | 15.91 020                                  |                                             | 26.40 020                                   |
|                                              | 32.09 025                                  |                                             | 34.93 025                                   |
|                                              | 16.09 030                                  | 33.48 030                                   | 17.57 030                                   |
| 42.08 030                                    | 16.09 040                                  | 36.59 040                                   | 17.57 040                                   |
| 48.18 040                                    | 16.14 050                                  | 37.65 050                                   | 18.28 050                                   |
| 47.97 050                                    | 16.14 060                                  | 51.86 060                                   | 18.28 060                                   |
| 47.97 060                                    | 21.00 080                                  | 56.66 080                                   | 23.26 080                                   |
| 60.63 080                                    | 25.17 100                                  | 70.66 100                                   | 28.04 100                                   |
| 73.31 100                                    |                                            |                                             |                                             |

## Blind hole – Machine taps, right hand

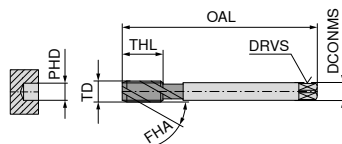
M



DIN 371 with reinforced shank



|      |      |     |        |      |      |     |    |        |  | 23 416 ... | 23 426 ... | 23 456 ... | 23 616 ... | 23 614 ... |
|------|------|-----|--------|------|------|-----|----|--------|--|------------|------------|------------|------------|------------|
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Flutes |  | £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    |
| M2   | 0.40 | 45  | 2.8    | 2.1  | 1.60 | 4   | 12 | 2      |  | 42.61      |            |            |            |            |
| M2,5 | 0.45 | 50  | 2.8    | 2.1  | 2.05 | 5   | 14 | 2      |  | 40.79      |            |            |            |            |
| M3   | 0.50 | 56  | 3.5    | 2.7  | 2.50 | 6   | 18 | 3      |  | 34.77      | 14.94      | 16.62      | 16.09      | 34.19      |
| M4   | 0.70 | 63  | 4.5    | 3.4  | 3.30 | 7   | 21 | 3      |  | 38.92      | 15.05      | 18.19      | 16.09      | 34.19      |
| M5   | 0.80 | 70  | 6.0    | 4.9  | 4.20 | 8   | 25 | 3      |  | 40.21      | 15.49      | 18.48      | 16.14      | 35.50      |
| M6   | 1.00 | 80  | 6.0    | 4.9  | 5.00 | 10  | 30 | 3      |  | 51.58      | 15.77      | 23.73      | 16.14      | 35.50      |
| M8   | 1.25 | 90  | 8.0    | 6.2  | 6.80 | 14  | 35 | 3      |  | 54.67      | 18.48      | 25.44      | 21.00      | 41.88      |
| M10  | 1.50 | 100 | 10.0   | 8.0  | 8.50 | 16  | 39 | 3      |  | 76.91      | 22.17      | 35.09      | 25.17      | 51.29      |



DIN 376 with reduced shank

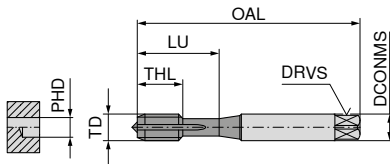
|     |      |     |        |      |      |     |        | 23 417 ... | 23 427 ... | 23 457 ... | 23 615 ... |
|-----|------|-----|--------|------|------|-----|--------|------------|------------|------------|------------|
| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes | £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    |
| M12 | 1.75 | 110 | 9      | 7.0  | 10.2 | 18  | 3      |            | 36.66      | 50.31      | 63.46      |
| M12 | 1.75 | 110 | 9      | 7.0  | 10.2 | 18  | 4      | 83.59      |            |            |            |
| M14 | 2.00 | 110 | 11     | 9.0  | 12.0 | 20  | 4      |            | 48.33      |            |            |
| M16 | 2.00 | 110 | 12     | 9.0  | 14.0 | 22  | 3      |            | 52.58      | 63.23      |            |
| M16 | 2.00 | 110 | 12     | 9.0  | 14.0 | 22  | 4      | 101.69     |            |            |            |
| M20 | 2.50 | 140 | 16     | 12.0 | 17.5 | 25  | 3      |            | 78.31      | 125.61     |            |
| M20 | 2.50 | 140 | 16     | 12.0 | 17.5 | 25  | 4      | 160.13     |            |            |            |
| M24 | 3.00 | 160 | 18     | 14.5 | 21.0 | 30  | 4      |            | 99.05      |            |            |
| P   |      |     |        |      |      |     |        | 10         | 8          | 10         |            |
| M   |      |     |        |      |      |     |        | 8          | 6          | 8          |            |
| K   |      |     |        |      |      |     |        |            |            |            |            |
| N   |      |     |        |      |      |     |        | 24         | 22         | 24         | 15         |
| S   |      |     |        |      |      |     |        |            |            |            | 20         |
| H   |      |     |        |      |      |     |        |            |            |            |            |
| O   |      |     |        |      |      |     |        |            |            |            |            |

Cutting speed  $v_c$  (m/min.)

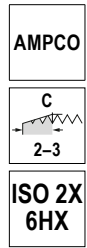
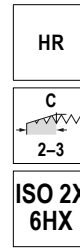
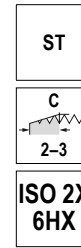
## Through hole / Blind hole – Machine taps, right hand

DuoTap

M



DIN 371 with reinforced shank



nitr.

HSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xDHSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xDHSS-PM  
FHA 0°  
≤ 800 N/mm²  
≤ 2xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M1,2     | 0.25     | 40        | 2.5          | 2.1        | 0.95      | 5         | 5        | 2      |
| M1,4     | 0.30     | 40        | 2.5          | 2.1        | 1.10      | 6         | 6        | 2      |
| M1,6     | 0.35     | 40        | 2.5          | 2.1        | 1.25      | 6         | 11       | 2      |
| M1,7     | 0.35     | 40        | 2.5          | 2.1        | 1.35      | 6         | 11       | 2      |
| M1,8     | 0.35     | 40        | 2.5          | 2.1        | 1.45      | 6         | 11       | 2      |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 3      |
| M2,2     | 0.45     | 45        | 2.8          | 2.1        | 1.75      | 7         | 12       | 3      |
| M2,3     | 0.40     | 45        | 2.8          | 2.1        | 1.90      | 7         | 12       | 3      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14       | 3      |
| M2,6     | 0.45     | 50        | 2.8          | 2.1        | 2.15      | 9         | 14       | 3      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18       | 3      |
| M3,5     | 0.60     | 56        | 4.0          | 3.0        | 2.90      | 12        | 20       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30       | 3      |
| M7       | 1.00     | 80        | 7.0          | 5.5        | 6.00      | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      |

22 028 ...

£

U0

61.37

49.79

44.51

49.28

45.75

38.38

39.10

44.47

37.65

40.62

31.37

32.09

31.30

32.09

31.86

46.14

36.04

46.16

012

014

016

017

018

020

022

023

025

026

030

035

040

050

060

070

080

100

22 006 ...

£

U0

44.51

45.62

48.71

48.17

52.84

66.99

030

040

050

060

080

100

22 030 ...

£

U0

45.01

45.94

45.98

45.01

51.80

65.86

030

040

050

060

080

100

|   |    |    |
|---|----|----|
| P | 12 | 6  |
| M |    |    |
| K | 12 | 16 |
| N |    | 12 |
| S |    | 8  |
| H |    |    |
| O |    |    |

1) Tol. 4H/5H ≤ M1.4

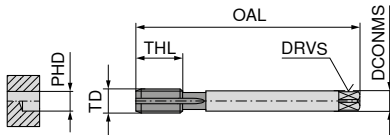
Cutting speed  $v_c$  (m/min.)

DIN 376 can be found on the next page

## Through hole / Blind hole – Machine taps, right hand

DuoTap

M



DIN 376 with reduced shank

| ST         | HR         | AMPCO      |
|------------|------------|------------|
|            |            |            |
| ISO 2X 6HX | ISO 2X 6HX | ISO 2X 6HX |

nitr.

HSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xDHSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xDHSS-PM  
FHA 0°  
≤ 800 N/mm²  
≤ 2xD

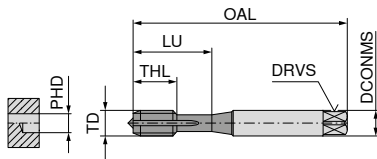
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | 22 029 ...<br>£<br>U0 | 22 007 ...<br>£<br>U0 | 22 031 ...<br>£<br>U0 |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|-----------------------|-----------------------|-----------------------|
| M4       | 0.70     | 63        | 2.8          | 2.1        | 3.3       | 13        | 3      | 40.79                 |                       |                       |
| M5       | 0.80     | 70        | 3.5          | 2.7        | 4.2       | 15        | 3      | 41.15                 |                       |                       |
| M6       | 1.00     | 80        | 4.5          | 3.4        | 5.0       | 17        | 3      | 41.15                 |                       |                       |
| M8       | 1.25     | 90        | 6.0          | 4.9        | 6.8       | 20        | 3      | 51.86                 |                       |                       |
| M10      | 1.50     | 100       | 7.0          | 5.5        | 8.5       | 22        | 3      | 58.63                 |                       |                       |
| M12      | 1.75     | 110       | 9.0          | 7.0        | 10.2      | 24        | 3      | 59.61                 |                       |                       |
| M12      | 1.75     | 110       | 9.0          | 7.0        | 10.2      | 24        | 4      |                       | 83.61                 | 120                   |
| M14      | 2.00     | 110       | 11.0         | 9.0        | 12.0      | 26        | 3      | 82.48                 |                       | 114.09                |
| M16      | 2.00     | 110       | 12.0         | 9.0        | 14.0      | 27        | 3      | 88.00                 | 121.79                |                       |
| M16      | 2.00     | 110       | 12.0         | 9.0        | 14.0      | 27        | 4      |                       |                       | 165.63                |
| M18      | 2.50     | 125       | 14.0         | 11.0       | 15.5      | 30        | 4      | 129.86                |                       |                       |
| M20      | 2.50     | 140       | 16.0         | 12.0       | 17.5      | 32        | 4      | 132.28                |                       | 220.63                |
| M22      | 2.50     | 140       | 18.0         | 14.5       | 19.5      | 32        | 4      | 180.98                |                       |                       |
| M24      | 3.00     | 160       | 18.0         | 14.5       | 21.0      | 34        | 4      | 179.12                |                       | 269.32                |
| M33      | 3.50     | 180       | 25.0         | 20.0       | 29.5      | 40        | 4      | 354.18                |                       |                       |
| P        |          |           |              |            |           |           |        | 12                    | 6                     |                       |
| M        |          |           |              |            |           |           |        |                       |                       |                       |
| K        |          |           |              |            |           |           |        | 12                    | 16                    |                       |
| N        |          |           |              |            |           |           |        |                       | 12                    | 8                     |
| S        |          |           |              |            |           |           |        |                       |                       |                       |
| H        |          |           |              |            |           |           |        |                       |                       |                       |
| O        |          |           |              |            |           |           |        |                       |                       |                       |

Cutting speed  $v_c$  (m/min.)

## Through hole / Blind hole – Machine taps, right hand

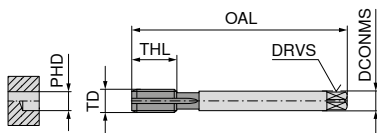
DuoTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.60      | 7         | 12       | 3      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.05      | 9         | 14       | 3      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.50      | 11        | 18       | 3      |
| M3,5     | 0.60     | 56        | 4.0          | 3.0        | 2.90      | 12        | 20       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.30      | 13        | 21       | 3      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.20      | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 22        | 39       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M6       | 1.00     | 80        | 4.5          | 3.4        | 5.0       | 17        | 3      |
| M8       | 1.25     | 90        | 6.0          | 4.9        | 6.8       | 20        | 3      |
| M10      | 1.50     | 100       | 7.0          | 5.5        | 8.5       | 22        | 3      |
| M12      | 1.75     | 110       | 9.0          | 7.0        | 10.2      | 24        | 3      |
| M14      | 2.00     | 110       | 11.0         | 9.0        | 12.0      | 26        | 3      |
| M16      | 2.00     | 110       | 12.0         | 9.0        | 14.0      | 27        | 3      |
| M18      | 2.50     | 125       | 14.0         | 11.0       | 15.5      | 30        | 4      |
| M20      | 2.50     | 140       | 16.0         | 12.0       | 17.5      | 32        | 4      |
| M22      | 2.50     | 140       | 18.0         | 14.5       | 19.5      | 32        | 4      |
| M24      | 3.00     | 160       | 18.0         | 14.5       | 21.0      | 34        | 4      |

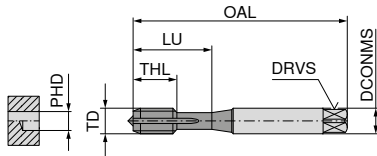
|   |    |    |
|---|----|----|
| P |    |    |
| M |    |    |
| K | 16 | 16 |
| N | 12 | 12 |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)HSS-E  
FHA 0°  
≤ 1050 N/mm²  
≤ 2xD22 036 ...  
£  
U055.54 050  
55.39 060  
62.37 080  
74.35 100HSS-E  
FHA 0°  
≤ 1050 N/mm²  
≤ 2xD22 032 ...  
£  
U040.07 020  
41.15 025  
34.52 030  
37.65 035  
35.29 040  
37.65 050  
37.65 060  
43.28 080  
51.77 10022 033 ...  
£  
U044.36 060  
48.53 080  
54.95 100  
66.43 120  
81.80 140  
94.65 160  
140.20 180  
140.20 200  
208.81 220  
186.50 240

## Through hole / Blind hole – Machine taps, right hand

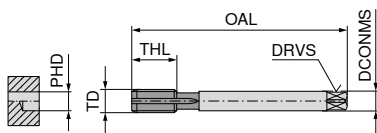
DuoTap

M



DIN 371 with reinforced shank

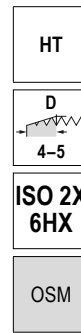
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 63        | 4.5          | 3.4        | 2.55      | 6         | 18       | 4      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.40      | 8         | 20       | 4      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.30      | 10        | 26       | 4      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.00      | 10        | 30       | 4      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.10      | 12        | 28       | 4      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.80      | 14        | 35       | 5      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 6.90      | 15        | 35       | 5      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 18        | 38       | 5      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 8.50      | 16        | 39       | 5      |
| M12      | 1.75     | 110       | 12.0         | 9.0        | 10.40     | 21        | 41       | 5      |
| M16      | 2.00     | 110       | 16.0         | 12.0       | 14.20     | 24        | 44       | 6      |



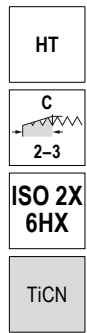
DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.4      | 18        | 5      |
| M16      | 2.00     | 110       | 12           | 9          | 14.2      | 22        | 6      |

|   |   |    |
|---|---|----|
| P |   |    |
| M |   |    |
| K |   |    |
| N |   | 22 |
| S |   |    |
| H | 2 | 2  |
| O |   |    |

Cutting speed  $v_c$  (m/min.)Solid carbide  
FHA 0°  
≤ 63 HRC  
≤ 1,5xD

| 22 806 ...   |
|--------------|
| £ U0         |
| 222.10 030   |
| 222.10 040   |
| 254.94 050   |
| 268.42 060   |
| 307.51 080   |
| 389.95 100   |
| 721.45 120   |
| 1,024.88 160 |

HSS-PM  
FHA 0°  
44 - 52 HRC  
≤ 1,5xD

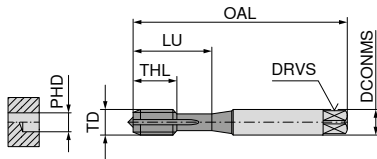
| 22 227 ... |
|------------|
| £ U0       |
| 192.56 060 |
| 207.31 080 |
| 259.58 100 |

## Through hole / Blind hole – Machine taps, right hand

▲ EL = extra long, with double overall length

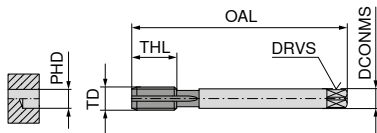
DuoTap

M



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 100       | 3.5          | 2.7        | 2.5       | 11        | 18       | 3      |
| M4       | 0.70     | 125       | 4.5          | 3.4        | 3.3       | 13        | 21       | 3      |
| M5       | 0.80     | 140       | 6.0          | 4.9        | 4.2       | 15        | 25       | 3      |
| M6       | 1.00     | 160       | 6.0          | 4.9        | 5.0       | 17        | 30       | 3      |
| M8       | 1.25     | 180       | 8.0          | 6.2        | 6.8       | 20        | 35       | 3      |



DIN 376 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M10      | 1.50     | 200       | 7            | 5.5        | 8.5       | 22        | 3      |
| M12      | 1.75     | 224       | 9            | 7.0        | 10.2      | 24        | 3      |
| M16      | 2.00     | 224       | 12           | 9.0        | 14.0      | 27        | 3      |
| M20      | 2.50     | 280       | 16           | 12.0       | 17.5      | 32        | 4      |

|   |    |
|---|----|
| P | 6  |
| M |    |
| K | 16 |
| N | 22 |
| S |    |
| H |    |
| O |    |

HR  
ELC  
2-3ISO 2X  
6HX

nitr.

HSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xD

22 122 ...

£

U0

87.79

030

87.79

040

94.65

050

99.24

060

114.38

080

22 123 ...

£

U0

132.09

100

156.79

120

244.81

160

337.03

200

Cutting speed  $v_c$  (m/min.)

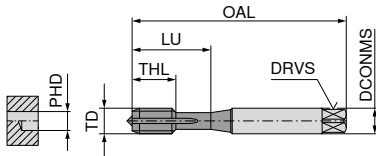
## Through hole / Blind hole – Machine taps, right hand

M

GG

C  
2-3ISO 2X  
6HX

TiCN



DIN 371 with reinforced shank

HSS-E  
FHA 0°  
≤ 900 N/mm²  
≤ 2xD

23 512 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M5       | 0.80     | 70        | 6            | 4.9        | 4.2       | 15        | 25       | 3      |
| M6       | 1.00     | 80        | 6            | 4.9        | 5.0       | 17        | 30       | 3      |
| M8       | 1.25     | 90        | 8            | 6.2        | 6.8       | 20        | 35       | 3      |
| M10      | 1.50     | 100       | 10           | 8.0        | 8.5       | 22        | 39       | 3      |

£

T9

37.82

050

49.26

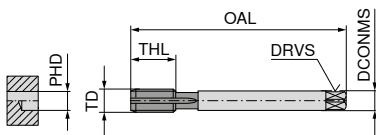
060

52.84

080

72.23

100



DIN 376 with reduced shank

23 513 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 10.2      | 24        | 3      |

£

T9

81.36

120

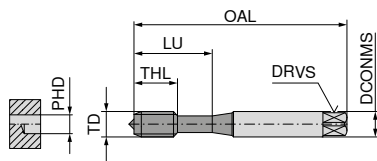
|   |    |
|---|----|
| P |    |
| M |    |
| K | 20 |
| N | 24 |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)



## Through hole / Blind hole – Machine thread formers, right hand

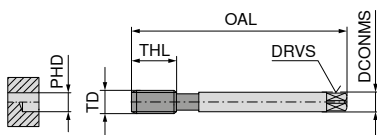
▲ HML = with soldered-in carbide strips for a higher cutting speed



DIN 2174 with reinforced shank

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU   |
|------|------|-----|--------|------|------|-----|------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm   |
| M1   | 0.25 | 40  | 2.5    | 2.1  | 0.90 | 5   | 6.5  |
| M1,2 | 0.25 | 40  | 2.5    | 2.1  | 1.10 | 5   | 6.5  |
| M1,4 | 0.30 | 40  | 2.5    | 2.1  | 1.28 | 6   | 9.0  |
| M1,6 | 0.35 | 40  | 2.5    | 2.1  | 1.47 | 6   | 9.0  |
| M1,7 | 0.35 | 40  | 2.5    | 2.1  | 1.57 | 6   | 9.0  |
| M2   | 0.40 | 45  | 2.8    | 2.1  | 1.85 | 7   | 10.0 |
| M2,5 | 0.45 | 50  | 2.8    | 2.1  | 2.33 | 9   | 14.0 |
| M2,6 | 0.45 | 50  | 2.8    | 2.1  | 2.43 | 9   | 14.0 |
| M3   | 0.50 | 56  | 3.5    | 2.7  | 2.80 | 11  | 18.0 |
| M3,5 | 0.60 | 56  | 4.0    | 3.0  | 3.25 | 12  | 20.0 |
| M4   | 0.70 | 63  | 4.5    | 3.4  | 3.70 | 13  | 21.0 |
| M5   | 0.80 | 70  | 6.0    | 4.9  | 4.65 | 15  | 25.0 |
| M6   | 1.00 | 80  | 6.0    | 4.9  | 5.60 | 17  | 30.0 |
| M6   | 1.00 | 80  | 6.0    | 5.0  | 5.60 | 18  | 30.0 |
| M8   | 1.25 | 90  | 8.0    | 6.2  | 7.40 | 20  | 35.0 |
| M8   | 1.25 | 90  | 8.0    | 6.0  | 7.45 | 18  | 35.0 |
| M8   | 1.25 | 90  | 8.0    | 6.2  | 7.45 | 20  | 35.0 |
| M10  | 1.50 | 100 | 10.0   | 8.0  | 9.35 | 22  | 39.0 |

1) Tol. ISO 1X 4HX ≤ M1.4



DIN 2174 with reduced shank

| TD  | TP   | OAL | DCONMS | DRVS | PHD   | THL |
|-----|------|-----|--------|------|-------|-----|
| mm  | mm   | mm  | mm     | mm   | mm    | mm  |
| M12 | 1.75 | 110 | 9      | 7    | 11.25 | 24  |
| M16 | 2.00 | 110 | 12     | 9    | 15.10 | 27  |

|   |    |    |
|---|----|----|
| P | 18 | 18 |
| M | 10 | 10 |
| K | 10 | 10 |
| N | 30 | 18 |
| S |    | 22 |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

NEW

NW  
HMLISO 2X  
6HX

HCr

HSS-E / HM  
≤ 880 N/mm<sup>2</sup>  
≤ 3xD

22 473 ...

£

U0

EC

ISO 2X  
6HX

TiN

HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 1,5xD

22 128 ...

£

U0

EC

ISO 2X  
6HX

TiN

HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 1,5xD

22 100 ...

£

U0

|        |     |    |
|--------|-----|----|
| 101.63 | 010 | 1) |
| 93.21  | 012 | 1) |
| 87.79  | 014 | 1) |
| 85.40  | 016 |    |
| 87.79  | 017 |    |
| 57.03  | 020 |    |
| 57.74  | 025 |    |
| 60.70  | 026 |    |
| 52.58  | 030 |    |
| 50.50  | 035 |    |
| 53.88  | 040 |    |
| 56.45  | 050 |    |
| 64.75  | 060 |    |
| 71.21  | 080 |    |
| 78.20  | 080 |    |
| 104.40 | 100 |    |
| 89.87  | 100 |    |

22 101 ...

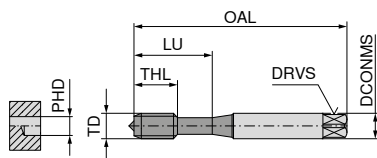
£

U0

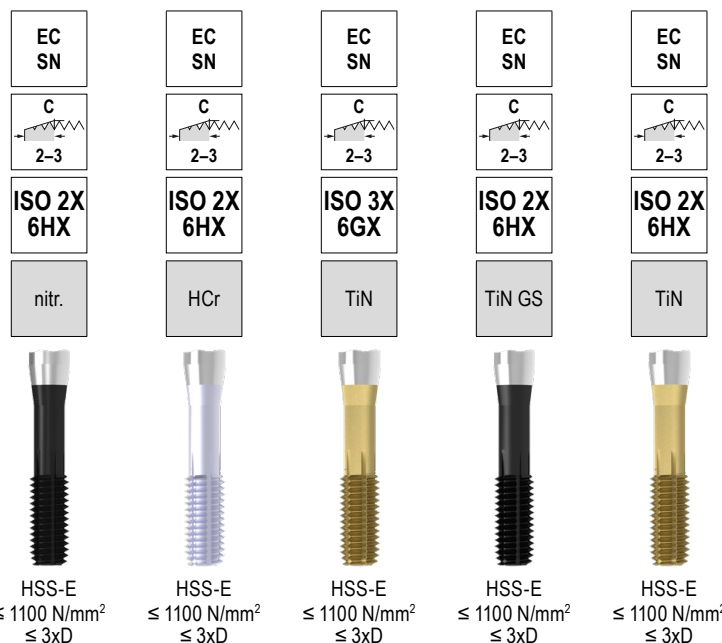
|        |     |
|--------|-----|
| 110.32 | 120 |
| 165.61 | 160 |

## Through hole / Blind hole – Machine thread formers, right hand

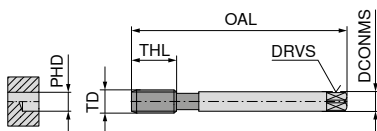
▲ SN = Thread formers with lubrication grooves



DIN 2174 with reinforced shank



| 22 104 ... |          |           |              |            |           |           |          |        |         | 22 107 ... |         | 22 108 ... |         | 22 154 ... |         | 22 105 ... |         |     |         |        |         |       |     |
|------------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|---------|------------|---------|------------|---------|------------|---------|------------|---------|-----|---------|--------|---------|-------|-----|
| TD<br>mm   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes | £<br>U0 | 030        | £<br>U0 | 030        | £<br>U0 | 030        | £<br>U0 | 030        | £<br>U0 | 020 |         |        |         |       |     |
| M2         | 0.40     | 45        | 2.8          | 2.1        | 1.85      | 7         | 10       | 3      |         |            | £<br>U0 |            |         |            | £<br>U0 |            |         |     | £<br>U0 |        | £<br>U0 |       |     |
| M2,5       | 0.45     | 50        | 2.8          | 2.1        | 2.33      | 9         | 14       | 3      |         |            |         |            |         |            |         |            |         |     |         |        | 66.99   | 025   |     |
| M3         | 0.50     | 56        | 3.5          | 2.7        | 2.80      | 11        | 18       | 3      | 40.97   |            |         |            | 56.45   |            |         |            | 54.81   |     |         | 82.34  |         | 57.75 | 030 |
| M3,5       | 0.60     | 56        | 4.0          | 3.0        | 3.25      | 12        | 20       | 3      |         |            |         |            |         |            |         |            |         |     |         |        | 62.44   | 035   |     |
| M4         | 0.70     | 63        | 4.5          | 3.4        | 3.70      | 13        | 21       | 4      | 48.53   |            | 040     |            | 57.37   |            | 040     |            | 58.83   |     | 040     | 86.36  | 040     | 59.97 | 040 |
| M5         | 0.80     | 70        | 6.0          | 4.9        | 4.65      | 15        | 25       | 4      | 49.97   |            | 050     |            | 60.70   |            | 050     |            | 62.44   |     | 050     | 89.65  | 050     |       |     |
| M5         | 0.80     | 70        | 6.0          | 4.9        | 4.65      | 15        | 25       | 5      |         |            |         |            |         |            |         |            |         |     |         |        | 61.98   | 050   |     |
| M6         | 1.00     | 80        | 6.0          | 4.9        | 5.60      | 17        | 30       | 4      | 51.05   |            | 060     |            | 61.37   |            | 060     |            | 70.12   |     | 060     | 98.86  | 060     | 70.84 | 060 |
| M8         | 1.25     | 90        | 8.0          | 6.2        | 7.45      | 20        | 35       | 5      | 61.37   |            | 080     |            | 71.68   |            | 080     |            | 80.08   |     | 080     | 107.19 | 080     | 78.22 | 080 |
| M10        | 1.50     | 100       | 10.0         | 8.0        | 9.35      | 22        | 39       | 6      | 79.51   | 100        | 90.97   | 100        | 97.23   | 100        | 130.43  | 100        | 97.60   | 100 |         |        |         |       |     |



DIN 2174 with reduced shank

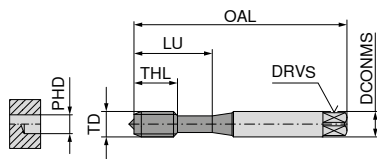
|          |          |           |              |            |           |           |        | 22 106 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|------------|-----|
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | £<br>U0    |     |
| M12      | 1.75     | 110       | 9            | 7          | 11.25     | 24        | 6      | 134.49     | 120 |
| M14      | 2.00     | 110       | 11           | 9          | 13.10     | 26        | 5      | 234.66     | 140 |
| M16      | 2.00     | 110       | 12           | 9          | 15.10     | 27        | 7      | 197.03     | 160 |

|   |    |    |    |    |    |
|---|----|----|----|----|----|
| P | 12 | 18 | 18 | 18 | 18 |
| M |    | 10 | 10 | 10 | 10 |
| K | 8  | 10 | 10 | 10 | 10 |
| N | 12 | 18 | 22 | 22 | 22 |
| S |    |    |    |    |    |
| H |    |    |    |    |    |
| O |    |    |    |    |    |

Cutting speed  $v_c$  (m/min.)

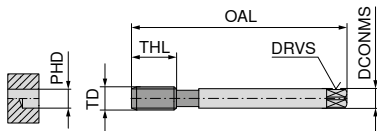
## Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves



DIN 2174 with reinforced shank

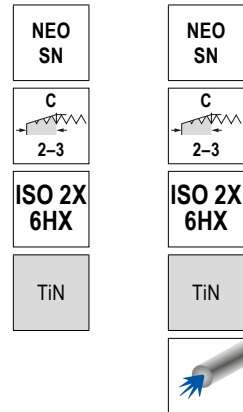
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.80      | 11        | 18       | 4      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.70      | 13        | 21       | 4      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.65      | 15        | 25       | 4      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.60      | 17        | 30       | 5      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 7.45      | 20        | 35       | 5      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 9.35      | 22        | 39       | 5      |



DIN 2174 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7          | 11.25     | 24        | 6      |
| M16      | 2.00     | 110       | 12           | 9          | 15.10     | 27        | 6      |

|   |    |    |
|---|----|----|
| P | 18 | 18 |
| M | 10 | 10 |
| K | 10 | 10 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

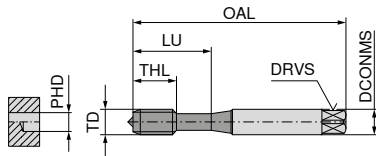
Cutting speed  $v_c$  (m/min.)

| 22 452 ... | 22 453 ... |
|------------|------------|
| £ U0       | £ U0       |
| 90.66 030  |            |
| 93.21 040  |            |
| 99.16 050  | 124.03 050 |
| 125.02 060 | 151.10 060 |
| 140.12 080 | 169.34 080 |
| 181.31 100 | 216.95 100 |

## Through hole / Blind hole – Machine thread formers, right hand

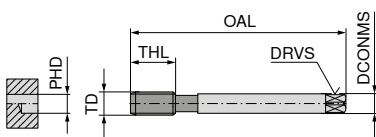
▲ SN = Thread formers with lubrication grooves

M



DIN 2174 with reinforced shank

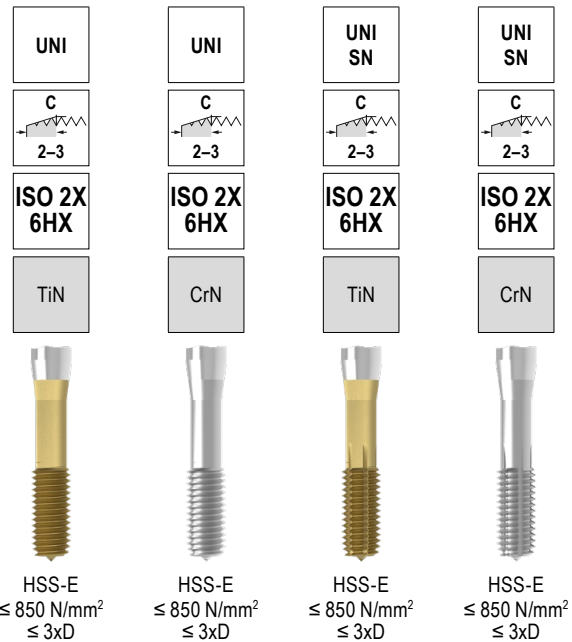
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.85      | 7         | 12       |        |
| M2       | 0.40     | 45        | 2.8          | 2.1        | 1.85      | 7         | 12       | 3      |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.33      | 9         | 14       |        |
| M2,5     | 0.45     | 50        | 2.8          | 2.1        | 2.33      | 9         | 14       | 3      |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.80      | 11        | 18       |        |
| M3       | 0.50     | 56        | 3.5          | 2.7        | 2.80      | 11        | 18       | 3      |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.70      | 13        | 21       |        |
| M4       | 0.70     | 63        | 4.5          | 3.4        | 3.70      | 13        | 21       | 4      |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.65      | 15        | 25       |        |
| M5       | 0.80     | 70        | 6.0          | 4.9        | 4.65      | 15        | 25       | 4      |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.60      | 17        | 30       |        |
| M6       | 1.00     | 80        | 6.0          | 4.9        | 5.60      | 17        | 30       | 4      |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 7.45      | 20        | 35       |        |
| M8       | 1.25     | 90        | 8.0          | 6.2        | 7.45      | 20        | 35       | 5      |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 9.35      | 22        | 39       |        |
| M10      | 1.50     | 100       | 10.0         | 8.0        | 9.35      | 22        | 39       | 5      |



DIN 2174 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12      | 1.75     | 110       | 9            | 7.0        | 11.25     | 24        |        |
| M12      | 1.75     | 110       | 9            | 7.0        | 11.25     | 24        | 5      |
| M16      | 2.00     | 110       | 12           | 9.0        | 15.10     | 27        |        |
| M16      | 2.00     | 110       | 12           | 9.0        | 15.10     | 27        | 6      |
| M18      | 2.50     | 125       | 14           | 11.0       | 16.80     | 30        | 6      |
| M20      | 2.50     | 140       | 16           | 12.0       | 18.80     | 32        | 6      |
| M24      | 3.00     | 160       | 18           | 14.5       | 22.60     | 34        | 6      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 18 | 18 | 18 | 18 |
| M | 10 | 10 | 10 | 10 |
| K | 10 |    | 10 |    |
| N | 22 | 18 | 22 | 18 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Cutting speed  $v_c$  (m/min.)

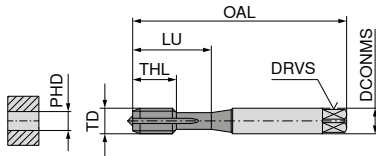
| 23 810 ... | 23 812 ... | 23 814 ... | 23 816 ... |
|------------|------------|------------|------------|
| £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    |
| 50.35 020  | 56.46 020  | 57.21 020  | 64.44 020  |
| 44.85 025  | 49.82 025  | 51.86 025  | 56.46 025  |
| 32.65 030  | 36.33 030  | 34.77 030  | 40.89 030  |
| 33.12 040  | 37.10 040  | 74.49 040  | 40.89 040  |
| 35.50 050  | 38.38 050  | 78.55 050  | 44.27 050  |
| 42.61 060  | 38.38 060  | 90.16 060  | 44.27 060  |
| 47.59 080  | 43.82 080  | 94.18 080  | 52.40 080  |
| 63.46 100  | 56.46 100  | 60.77 100  | 65.52 100  |

| 23 811 ... | 23 813 ... | 23 815 ...   | 23 817 ... |
|------------|------------|--------------|------------|
| £<br>T9    | £<br>T9    | £<br>T9      | £<br>T9    |
| 72.52 120  | 70.66 120  | 79.46 120    | 79.46 120  |
| 136.34 160 | 138.42 160 | 151.63 160   | 161.98 160 |
|            |            | 175.91 18000 |            |
|            |            | 163.61 20000 |            |
|            |            | 218.60 24000 |            |

## Through hole – machine taps for wire thread inserts, right hand

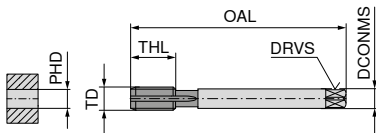
TruTap

EG M



DIN 40435 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| EG-M2,5  | 0.45     | 56        | 3.5          | 2.7        | 2.65      | 11        | 18       | 3      |
| EG-M3    | 0.50     | 63        | 4.5          | 3.4        | 3.15      | 10        | 21       | 3      |
| EG-M4    | 0.70     | 70        | 6.0          | 4.9        | 4.20      | 12        | 25       | 3      |
| EG-M5    | 0.80     | 80        | 6.0          | 4.9        | 5.25      | 13        | 30       | 3      |
| EG-M6    | 1.00     | 90        | 8.0          | 6.2        | 6.30      | 17        | 35       | 3      |
| EG-M8    | 1.25     | 100       | 10.0         | 8.0        | 8.40      | 18        | 39       | 3      |



DIN 40435 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| EG-M10   | 1.50     | 100       | 9            | 7.0        | 10.50     | 22        | 3      |
| EG-M12   | 1.75     | 110       | 11           | 9.0        | 12.50     | 26        | 3      |
| EG-M16   | 2.00     | 125       | 14           | 11.0       | 16.50     | 27        | 3      |
| EG-M20   | 2.50     | 160       | 18           | 14.5       | 20.75     | 34        | 3      |

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

UNI

6H  
modnitr. +  
vap.HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

22 662 ...

£

U0

64.24

025

54.14

030

56.72

040

54.59

050

55.66

060

65.29

080

22 663 ...

£

U0

88.35

100

103.55

120

146.10

160

206.38

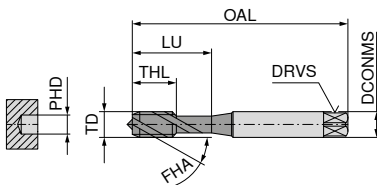
200

Cutting speed  $v_c$  (m/min.)

## Blind hole – machine taps for wire thread inserts, right hand

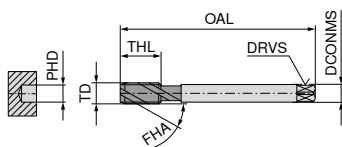
CavTap

EG M



DIN 40435 with reinforced shank

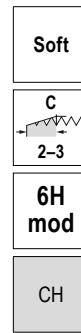
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| EG-M2,5  | 0.45     | 56        | 3.5          | 2.7        | 2.65      | 5         | 18       | 2      |
| EG-M2,5  | 0.45     | 56        | 3.5          | 2.7        | 2.65      | 5         | 18       | 3      |
| EG-M3    | 0.50     | 63        | 4.5          | 3.4        | 3.15      | 5         | 21       | 2      |
| EG-M3    | 0.50     | 63        | 4.5          | 3.4        | 3.15      | 5         | 21       | 3      |
| EG-M4    | 0.70     | 70        | 6.0          | 4.9        | 4.20      | 8         | 25       | 2      |
| EG-M4    | 0.70     | 70        | 6.0          | 4.9        | 4.20      | 8         | 25       | 3      |
| EG-M5    | 0.80     | 80        | 6.0          | 4.9        | 5.25      | 8         | 30       | 2      |
| EG-M5    | 0.80     | 80        | 6.0          | 4.9        | 5.25      | 8         | 30       | 3      |
| EG-M6    | 1.00     | 90        | 8.0          | 6.2        | 6.30      | 10        | 35       | 2      |
| EG-M6    | 1.00     | 90        | 8.0          | 6.2        | 6.30      | 10        | 35       | 3      |
| EG-M8    | 1.25     | 100       | 10.0         | 8.0        | 8.40      | 16        | 39       | 2      |
| EG-M8    | 1.25     | 100       | 10.0         | 8.0        | 8.40      | 16        | 39       | 3      |



DIN 40435 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| EG-M10   | 1.50     | 100       | 9            | 7.0        | 10.50     | 15        | 5      |
| EG-M12   | 1.75     | 110       | 11           | 9.0        | 12.50     | 20        | 4      |
| EG-M16   | 2.00     | 125       | 14           | 11.0       | 16.50     | 20        | 5      |
| EG-M20   | 2.50     | 160       | 18           | 14.5       | 20.75     | 30        | 4      |

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N | 22 |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)HSS-E  
FHA 42°  
≤ 500 N/mm²  
≤ 3xD

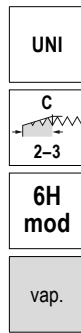
22 280 ...

£

U0

88.04

025

HSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

22 664 ...

£

U0

61.63

025

55.17

030

56.28

040

53.12

050

58.63

060

64.55

080

22 665 ...

£

U0

86.14

100

105.72

120

148.52

160

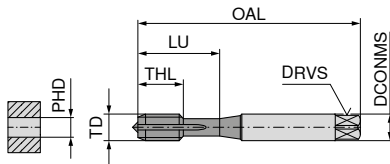
215.28

200

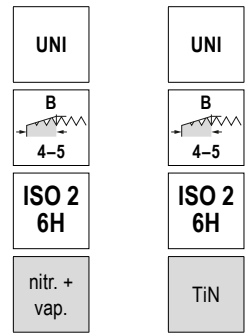
## Through hole – Machine taps, right hand

TruTap

MF



DIN 371 with reinforced shank

HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xDHSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M5x0,5   | 0.50     | 70        | 6            | 4.9        | 4.5       | 11        | 25       | 3      |
| M6x0,5   | 0.50     | 80        | 6            | 4.9        | 5.5       | 13        | 30       | 3      |
| M6x0,75  | 0.75     | 80        | 6            | 4.9        | 5.2       | 13        | 30       | 3      |
| M8x1     | 1.00     | 90        | 8            | 6.2        | 7.0       | 17        | 35       | 3      |
| M10x1    | 1.00     | 90        | 10           | 8.0        | 9.0       | 18        | 35       | 4      |

| 22 590 ... | 22 550 ... |
|------------|------------|
| £<br>U0    | £<br>U0    |
| 78.20 050  | 92.24 050  |
| 84.49 060  | 114.21 060 |
| 84.49 062  | 114.21 062 |
| 82.27 084  | 109.50 080 |
| 84.49 102  | 124.91 100 |

|   |    |    |
|---|----|----|
| P | 12 | 15 |
| M | 7  | 9  |
| K | 12 | 18 |
| N |    | 12 |
| S |    |    |
| H |    |    |
| O |    |    |

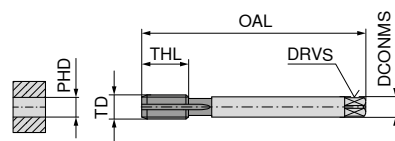
Cutting speed  $v_c$  (m/min.)

DIN 374 can be found on the next page

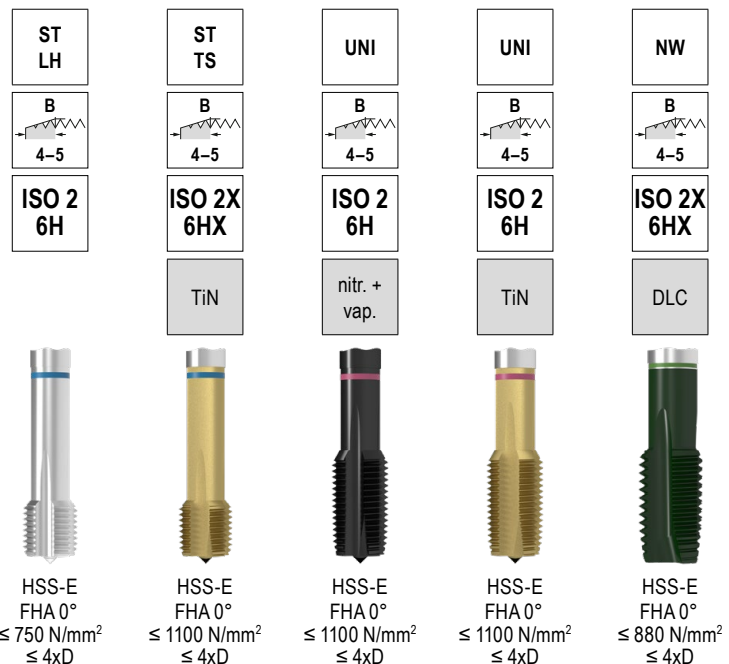
## Through hole – Machine taps, right hand

▲ TS = for high-speed machining, up to 100 m/min.

▲ LH = for left hand threads



DIN 374 with reduced shank



| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | 22 210 ... |     | 22 193 ... |     | 22 551 ... |     | 22 552 ... |     | 22 466 ... |       |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|------------|-----|------------|-----|------------|-----|------------|-----|------------|-------|
|          |          |           |              |            |           |           |        | £<br>U0    |     | £<br>U0    |     | £<br>U0    |     | £<br>U0    |     | £<br>U0    |       |
| M8x0,75  | 0.75     | 80        | 6            | 4.9        | 7.2       | 14        | 3      |            |     |            |     | 63.83      | 082 |            |     |            |       |
| M8x1     | 1.00     | 90        | 6            | 4.9        | 7.0       | 10        | 4      |            |     | 124.91     | 080 |            |     |            |     |            |       |
| M8x1     | 1.00     | 90        | 6            | 4.9        | 7.0       | 17        | 3      | 104.40     | 084 |            |     | 60.15      | 084 | 97.23      | 080 | 65.50      | 08000 |
| M10x0,75 | 0.75     | 90        | 7            | 5.5        | 9.2       | 18        | 4      |            |     |            |     | 88.39      | 100 |            |     |            |       |
| M10x1    | 1.00     | 90        | 7            | 5.5        | 9.0       | 10        | 4      |            |     | 134.29     | 100 |            |     |            |     |            |       |
| M10x1    | 1.00     | 90        | 7            | 5.5        | 9.0       | 18        | 4      | 109.38     | 102 |            |     | 60.88      | 102 | 104.40     | 100 | 68.02      | 10000 |
| M10x1,25 | 1.25     | 100       | 7            | 5.5        | 8.8       | 22        | 3      |            |     |            |     | 133.03     | 104 |            |     | 85.72      | 10200 |
| M12x1    | 1.00     | 100       | 9            | 7.0        | 11.0      | 18        | 4      | 139.13     | 120 |            |     | 72.16      | 120 | 141.30     | 121 | 78.45      | 12000 |
| M12x1,25 | 1.25     | 100       | 9            | 7.0        | 10.8      | 22        | 3      |            |     |            |     | 96.65      | 122 |            |     | 88.14      | 12200 |
| M12x1,5  | 1.50     | 100       | 9            | 7.0        | 10.5      | 15        | 4      |            |     | 154.96     | 120 |            |     |            |     |            |       |
| M12x1,5  | 1.50     | 100       | 9            | 7.0        | 10.5      | 22        | 3      | 145.68     | 124 |            |     | 67.72      | 124 | 105.51     | 120 | 75.89      | 12400 |
| M14x1    | 1.00     | 100       | 11           | 9.0        | 13.0      | 18        | 4      |            |     |            |     | 185.00     | 140 |            |     | 105.86     | 14000 |
| M14x1,25 | 1.25     | 100       | 11           | 9.0        | 12.8      | 22        | 3      |            |     | 216.09     | 140 |            |     |            |     | 100.42     | 14200 |
| M14x1,5  | 1.50     | 100       | 11           | 9.0        | 12.5      | 15        | 4      |            |     |            |     | 94.65      | 144 | 143.17     | 140 | 100.42     | 14400 |
| M14x1,5  | 1.50     | 100       | 11           | 9.0        | 12.5      | 22        | 3      | 188.92     | 144 |            |     |            |     |            |     | 115.13     | 16000 |
| M16x1    | 1.00     | 100       | 12           | 9.0        | 15.0      | 18        | 4      |            |     | 218.61     | 160 |            |     |            |     |            |       |
| M16x1,5  | 1.50     | 100       | 12           | 9.0        | 14.5      | 15        | 4      |            |     |            |     | 107.38     | 162 | 147.48     | 160 | 112.08     | 16200 |
| M16x1,5  | 1.50     | 100       | 12           | 9.0        | 14.5      | 22        | 3      | 188.92     | 162 |            |     | 292.75     | 180 |            |     |            |       |
| M18x1    | 1.00     | 110       | 14           | 11.0       | 17.0      | 20        | 5      |            |     | 268.42     | 180 |            |     |            |     |            |       |
| M18x1,5  | 1.50     | 110       | 14           | 11.0       | 16.5      | 17        | 4      |            |     |            |     | 130.80     | 182 |            |     |            |       |
| M18x1,5  | 1.50     | 110       | 14           | 11.0       | 16.5      | 25        | 4      | 218.61     | 182 |            |     | 243.89     | 184 |            |     |            |       |
| M18x2    | 2.00     | 125       | 14           | 11.0       | 16.0      | 26        | 3      |            |     |            |     | 326.12     | 200 |            |     |            |       |
| M20x1    | 1.00     | 125       | 16           | 12.0       | 19.0      | 20        | 5      |            |     | 337.03     | 200 |            |     |            |     |            |       |
| M20x1,5  | 1.50     | 125       | 16           | 12.0       | 18.5      | 17        | 4      |            |     |            |     | 143.17     | 202 | 220.63     | 200 |            |       |
| M20x1,5  | 1.50     | 125       | 16           | 12.0       | 18.5      | 25        | 4      | 249.40     | 202 |            |     | 149.42     | 222 | 323.00     | 220 |            |       |
| M22x1,5  | 1.50     | 125       | 18           | 14.5       | 20.5      | 25        | 4      |            |     |            |     | 172.29     | 242 |            |     |            |       |
| M24x1,5  | 1.50     | 140       | 18           | 14.5       | 22.5      | 27        | 4      |            |     |            |     | 312.15     | 244 |            |     |            |       |
| M24x2    | 2.00     | 140       | 18           | 14.5       | 22.0      | 27        | 4      |            |     |            |     | 526.49     | 250 |            |     |            |       |
| M25x1,5  | 1.50     | 140       | 18           | 14.5       | 23.5      | 28        | 4      |            |     |            |     | 223.93     | 260 |            |     |            |       |
| M26x1,5  | 1.50     | 140       | 18           | 14.5       | 24.5      | 28        | 4      |            |     |            |     | 552.13     | 272 |            |     |            |       |
| M27x2    | 2.00     | 140       | 20           | 16.0       | 25.0      | 28        | 4      |            |     |            |     | 251.82     | 280 |            |     |            |       |
| M28x1,5  | 1.50     | 140       | 20           | 16.0       | 26.5      | 28        | 5      |            |     |            |     | 272.12     | 302 |            |     |            |       |
| M30x1,5  | 1.50     | 150       | 22           | 18.0       | 28.5      | 28        | 5      |            |     |            |     |            |     |            |     |            |       |
| P        |          |           |              |            |           |           |        | 12         |     | 65         |     | 12         |     | 15         |     |            |       |
| M        |          |           |              |            |           |           |        |            |     |            |     | 7          |     | 9          |     |            |       |
| K        |          |           |              |            |           |           |        | 12         |     | 65         |     | 12         |     | 18         |     |            |       |
| N        |          |           |              |            |           |           |        | 22         |     | 22         |     |            |     | 12         |     | 15         |       |
| S        |          |           |              |            |           |           |        |            |     |            |     |            |     |            |     |            |       |
| H        |          |           |              |            |           |           |        |            |     |            |     |            |     |            |     |            |       |
| O        |          |           |              |            |           |           |        |            |     |            |     |            |     |            |     |            |       |

Cutting speed  $v_c$  (m/min.)



## Through hole – Machine taps, right hand

MF

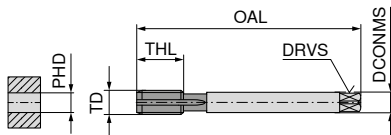
UNI

ISO 2  
6H

TiN



HSS-PM  
FHA 0°  
≤ 1000 N/mm²  
≤ 3xD



DIN 374 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M8x1     | 1.00     | 90        | 6            | 4.9        | 7.0       | 17        | 3      |
| M10x1    | 1.00     | 90        | 7            | 5.5        | 9.0       | 18        | 4      |
| M10x1,25 | 1.25     | 100       | 7            | 5.5        | 8.8       | 22        | 3      |
| M12x1    | 1.00     | 100       | 9            | 7.0        | 11.0      | 18        | 4      |
| M12x1,25 | 1.25     | 100       | 9            | 7.0        | 10.8      | 22        | 3      |
| M12x1,5  | 1.50     | 100       | 9            | 7.0        | 10.5      | 22        | 3      |
| M14x1,25 | 1.25     | 100       | 11           | 9.0        | 12.8      | 22        | 3      |
| M14x1,5  | 1.50     | 100       | 11           | 9.0        | 12.5      | 22        | 3      |
| M16x1,5  | 1.50     | 100       | 12           | 9.0        | 14.5      | 22        | 3      |
| M18x1,5  | 1.50     | 110       | 14           | 11.0       | 16.5      | 17        | 4      |
| M20x1,5  | 1.50     | 125       | 16           | 12.0       | 18.5      | 17        | 4      |
| M22x1,5  | 1.50     | 125       | 18           | 14.5       | 20.5      | 25        | 4      |
| M24x1,5  | 1.50     | 140       | 18           | 14.5       | 22.5      | 27        | 4      |
| M24x2    | 2.00     | 140       | 18           | 14.5       | 22.0      | 27        | 4      |

23 041 ...

£  
T9

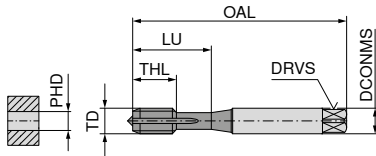
|        |     |
|--------|-----|
| 26.01  | 081 |
| 29.70  | 102 |
| 31.83  | 104 |
| 36.66  | 120 |
| 38.24  | 122 |
| 34.10  | 121 |
| 44.21  | 142 |
| 42.08  | 144 |
| 47.61  | 162 |
| 62.96  | 182 |
| 84.99  | 202 |
| 80.01  | 222 |
| 91.83  | 242 |
| 104.62 | 244 |

|   |    |
|---|----|
| P | 15 |
| M | 9  |
| K | 18 |
| N | 12 |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

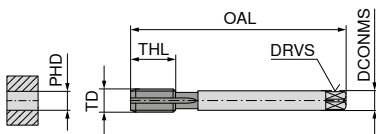
## Through hole – Machine taps, right hand

MF



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M4x0,5   | 0.50     | 63        | 4.5          | 3.4        | 3.5       | 10        | 21       | 3      |
| M5x0,5   | 0.50     | 70        | 6.0          | 4.9        | 4.5       | 11        | 25       | 3      |
| M6x0,75  | 0.75     | 80        | 6.0          | 4.9        | 5.2       | 13        | 30       | 3      |
| M6x0,5   | 0.50     | 80        | 6.0          | 4.9        | 5.5       | 13        | 30       | 3      |



DIN 374 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M8x0,5   | 0.50     | 80        | 6            | 4.9        | 7.5       | 14        | 3      |
| M8x0,75  | 0.75     | 80        | 6            | 4.9        | 7.2       | 14        | 3      |
| M8x1     | 1.00     | 90        | 6            | 4.9        | 7.0       | 17        | 3      |
| M8x1     | 1.00     | 90        | 6            | 4.9        | 7.0       | 17        | 4      |
| M10x0,75 | 0.75     | 90        | 7            | 5.5        | 9.2       | 18        | 4      |
| M10x1    | 1.00     | 90        | 7            | 5.5        | 9.0       | 18        | 4      |
| M10x1,25 | 1.25     | 100       | 7            | 5.5        | 8.8       | 22        | 3      |
| M12x1    | 1.00     | 100       | 9            | 7.0        | 11.0      | 18        | 4      |
| M12x1,25 | 1.25     | 100       | 9            | 7.0        | 10.8      | 22        | 3      |
| M12x1,5  | 1.50     | 100       | 9            | 7.0        | 10.5      | 22        | 3      |
| M14x1    | 1.00     | 100       | 11           | 9.0        | 13.0      | 18        | 4      |
| M14x1,5  | 1.50     | 100       | 11           | 9.0        | 12.5      | 22        | 3      |
| M16x1    | 1.00     | 100       | 12           | 9.0        | 15.0      | 18        | 4      |
| M16x1,5  | 1.50     | 100       | 12           | 9.0        | 14.5      | 22        | 3      |
| M18x1    | 1.00     | 110       | 14           | 11.0       | 17.0      | 20        | 5      |
| M18x1,5  | 1.50     | 110       | 14           | 11.0       | 16.5      | 25        | 4      |
| M20x1    | 1.00     | 125       | 16           | 12.0       | 19.0      | 20        | 5      |
| M20x1,5  | 1.50     | 125       | 16           | 12.0       | 18.5      | 25        | 4      |
| M22x1,5  | 1.50     | 125       | 18           | 14.5       | 20.5      | 25        | 4      |
| M24x1,5  | 1.50     | 140       | 18           | 14.5       | 22.5      | 27        | 4      |
| M26x1,5  | 1.50     | 140       | 18           | 14.5       | 24.5      | 28        | 4      |
| M28x1,5  | 1.50     | 140       | 20           | 16.0       | 26.5      | 28        | 5      |
| M30x1,5  | 1.50     | 150       | 22           | 18.0       | 28.5      | 28        | 5      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 12 | 15 | 12 | 10 |
| M | 7  | 9  |    | 8  |
| K | 12 | 18 | 12 |    |
| N |    | 12 | 12 | 24 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

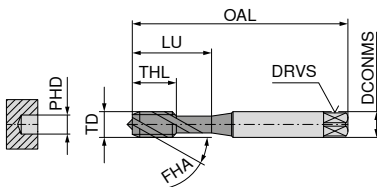
Cutting speed  $v_c$  (m/min.)

| UNI                                      | UNI                                      | FE                                      | VA                                       |
|------------------------------------------|------------------------------------------|-----------------------------------------|------------------------------------------|
| B<br>4-5                                 | B<br>4-5                                 | B<br>4-5                                | B<br>4-5                                 |
| ISO 2<br>6H                              | ISO 2<br>6H                              | ISO 2<br>6H                             | ISO 2<br>6H                              |
| nitr. +<br>vap.                          | TiN                                      |                                         | TiN                                      |
|                                          |                                          |                                         |                                          |
| HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 850 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1200 N/mm²<br>≤ 4xD |
| 23 140 ...                               | 23 142 ...                               |                                         | 23 440 ...                               |
| £<br>T9                                  | £<br>T9                                  |                                         | £<br>T9                                  |
| 44.47 040                                | 50.50 040                                |                                         | 51.86 050                                |
| 44.85 050                                | 51.86 050                                |                                         | 62.63 062                                |
| 47.44 062                                | 62.63 062                                |                                         | 63.27 062                                |
| 47.44 060                                | 62.63 060                                |                                         |                                          |

## Blind hole – Machine taps, right hand

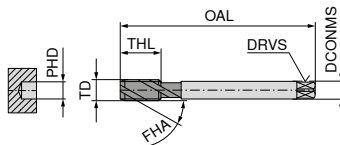
CavTap

MF



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M4x0,5   | 0.50     | 63        | 4.5          | 3.4        | 3.50      | 5         | 21       | 3      |
| M6x0,75  | 0.75     | 80        | 6.0          | 4.9        | 5.25      | 8         | 30       | 3      |
| M5x0,5   | 0.50     | 70        | 6.0          | 4.9        | 4.50      | 5         | 25       | 3      |



DIN 374 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M8x1     | 1.0      | 90        | 6            | 4.9        | 7.0       | 10        | 3      |
| M10x1    | 1.0      | 90        | 7            | 5.5        | 9.0       | 10        | 4      |
| M12x1,5  | 1.5      | 100       | 9            | 7.0        | 10.5      | 15        | 5      |
| M14x1,5  | 1.5      | 100       | 11           | 9.0        | 12.5      | 15        | 5      |
| M16x1,5  | 1.5      | 100       | 12           | 9.0        | 14.5      | 15        | 5      |
| M18x1,5  | 1.5      | 110       | 14           | 11.0       | 16.5      | 17        | 5      |
| M20x1,5  | 1.5      | 125       | 16           | 12.0       | 18.5      | 17        | 5      |

|   |    |    |    |
|---|----|----|----|
| P | 12 | 15 | 12 |
| M | 7  | 9  | 7  |
| K | 12 | 18 | 12 |
| N |    | 12 |    |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Cutting speed  $v_c$  (m/min.)

|                                           |                                           |                                           |
|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| UNI                                       | UNI                                       | UNI                                       |
| E<br>1,5-2                                | E<br>1,5-2                                | E<br>1,5-2                                |
| ISO 2<br>6H                               | ISO 2<br>6H                               | ISO 3<br>6G                               |
| vap.                                      | TiN                                       | vap.                                      |
|                                           |                                           |                                           |
| HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD |

22 441 ...

£

U0

86.90 040

86.90 062

78.62 050

22 555 ...

£

U0

64.96 080

74.35 100

83.61 120

103.87 140

126.93 160

22 556 ...

£

U0

88.54 080

113.99 100

129.12 120

162.72 140

173.60 160

22 490 ...

£

U0

86.90 080

94.65 100

104.40 120

134.27 140

164.02 160

186.67 180

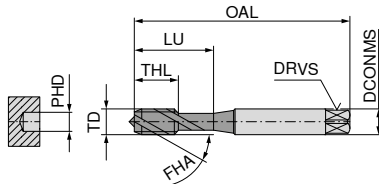
218.61 200

## Blind hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck

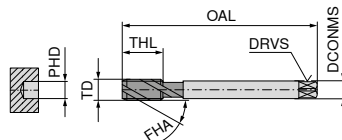
CavTap

MF



DIN 371 with reinforced shank

| TD      | TP   | OAL | DCONMS | DRVS | PHD | THL | LU | Flutes |
|---------|------|-----|--------|------|-----|-----|----|--------|
| mm      | mm   | mm  | mm     | mm   | mm  | mm  | mm |        |
| M4x0,5  | 0.50 | 63  | 4.5    | 3.4  | 3.5 | 5   | 21 | 3      |
| M5x0,5  | 0.50 | 70  | 6.0    | 4.9  | 4.5 | 5   | 25 | 3      |
| M6x0,5  | 0.50 | 80  | 6.0    | 4.9  | 5.5 | 5   | 30 | 3      |
| M6x0,75 | 0.75 | 80  | 6.0    | 4.9  | 5.2 | 8   | 30 | 3      |



DIN 374 with reduced shank

| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes |
|----------|------|-----|--------|------|------|-----|--------|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |        |
| M6x0,75  | 0.75 | 80  | 4.5    | 3.4  | 5.2  | 8   | 3      |
| M8x0,75  | 0.75 | 80  | 6.0    | 4.9  | 7.2  | 8   | 3      |
| M8x1     | 1.00 | 90  | 6.0    | 4.9  | 7.0  | 10  | 3      |
| M10x0,75 | 0.75 | 90  | 7.0    | 5.5  | 9.2  | 10  | 4      |
| M10x1    | 1.00 | 90  | 7.0    | 5.5  | 9.0  | 10  | 3      |
| M10x1,25 | 1.25 | 100 | 7.0    | 5.5  | 8.8  | 16  | 3      |
| M12x1    | 1.00 | 100 | 9.0    | 7.0  | 11.0 | 11  | 4      |
| M12x1,25 | 1.25 | 100 | 9.0    | 7.0  | 10.8 | 15  | 4      |
| M12x1,5  | 1.50 | 100 | 9.0    | 7.0  | 10.5 | 15  | 4      |
| M12x1,5  | 1.50 | 100 | 9.0    | 7.0  | 10.5 | 15  | 5      |
| M14x1,5  | 1.50 | 100 | 11.0   | 9.0  | 12.5 | 15  | 4      |
| M14x1,5  | 1.50 | 100 | 11.0   | 9.0  | 12.5 | 15  | 5      |
| M16x1,5  | 1.50 | 100 | 12.0   | 9.0  | 14.5 | 15  | 4      |
| M16x1,5  | 1.50 | 100 | 12.0   | 9.0  | 14.5 | 15  | 5      |
| M18x1,5  | 1.50 | 110 | 14.0   | 11.0 | 16.5 | 17  | 4      |
| M18x1,5  | 1.50 | 110 | 14.0   | 11.0 | 16.5 | 17  | 5      |
| M20x1,5  | 1.50 | 125 | 16.0   | 12.0 | 18.5 | 17  | 4      |
| M20x1,5  | 1.50 | 125 | 16.0   | 12.0 | 18.5 | 17  | 5      |
| M22x1,5  | 1.50 | 125 | 18.0   | 14.5 | 20.5 | 17  | 4      |
| M24x1,5  | 1.50 | 140 | 18.0   | 14.5 | 22.5 | 20  | 5      |
| M26x1,5  | 1.50 | 140 | 18.0   | 14.5 | 24.5 | 20  | 5      |
| M28x1,5  | 1.50 | 140 | 20.0   | 16.0 | 26.5 | 20  | 5      |
| M30x1,5  | 1.50 | 150 | 22.0   | 18.0 | 28.5 | 22  | 6      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 12 | 15 | 15 | 15 |
| M | 7  | 9  | 9  | 9  |
| K | 12 | 18 | 18 | 18 |
| N |    | 12 | 12 | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Cutting speed  $v_c$  (m/min.)

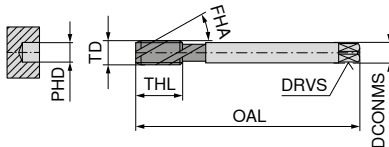
| UNI                                       | UNI                                       | UNI CNC                                   | UNI CNC                                   |
|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| C<br>2-3                                  | C<br>2-3                                  | E<br>1,5-2                                | E<br>1,5-2                                |
| ISO 2 6H                                  | ISO 2 6H                                  | 7G                                        | ISO 2 6H                                  |
| vap.                                      | TiN                                       | TiN GS                                    | TiN GS                                    |
|                                           |                                           |                                           |                                           |
| HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 1100 N/mm²<br>≤ 3xD |
| 22 202 ...                                |                                           |                                           | 22 548 ...                                |
| £<br>U0                                   |                                           |                                           | £<br>U0                                   |
| 86.90 040                                 |                                           |                                           | 92.44 050                                 |
| 78.62 050                                 |                                           |                                           | 92.44 060                                 |
| 86.90 060                                 |                                           |                                           | 92.44 062                                 |
| 86.90 062                                 |                                           |                                           |                                           |

## Blind hole – Machine taps

▲ LH = for left hand threads

CavTap

MF

ST  
LHC  
2-3ISO 2  
6H

DIN 374 with reduced shank

HSS-E  
FHA 42°  
≤ 750 N/mm²  
≤ 3xD

22 601 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M8x1     | 1.0      | 90        | 6            | 4.9        | 7.0       | 10        | 3      |
| M10x1    | 1.0      | 90        | 7            | 5.5        | 9.0       | 10        | 3      |
| M12x1    | 1.0      | 100       | 9            | 7.0        | 11.0      | 11        | 4      |
| M14x1,5  | 1.5      | 100       | 11           | 9.0        | 12.5      | 15        | 4      |
| M16x1,5  | 1.5      | 100       | 12           | 9.0        | 14.5      | 15        | 4      |
| M18x1,5  | 1.5      | 110       | 14           | 11.0       | 16.5      | 17        | 4      |
| M20x1,5  | 1.5      | 125       | 16           | 12.0       | 18.5      | 17        | 4      |

£

U0

082

100

120

140

160

180

200

|   |    |
|---|----|
| P | 12 |
| M |    |
| K | 12 |
| N | 12 |
| S |    |
| H |    |
| O |    |

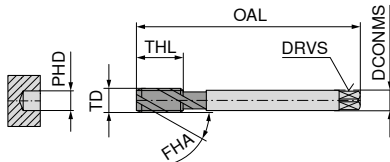
Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

CavTap  
SL

MF

ST

ISO 2  
6H

DIN 374 with reduced shank

HSS-E  
FHA 15°  
≤ 750 N/mm²  
≤ 2xD

22 182 ...

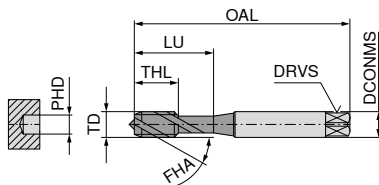
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | £<br>U0 |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|---------|-----|
| M6x0,75  | 0.75     | 80        | 4.5          | 3.4        | 5.2       | 13        | 3      | 69.01   | 062 |
| M8x0,75  | 0.75     | 80        | 6.0          | 4.9        | 7.2       | 14        | 3      | 69.57   | 082 |
| M8x1     | 1.00     | 90        | 6.0          | 4.9        | 7.0       | 17        | 3      | 62.63   | 084 |
| M9x1     | 1.00     | 90        | 7.0          | 5.5        | 8.0       | 17        | 3      | 95.20   | 090 |
| M10x0,75 | 0.75     | 90        | 7.0          | 5.5        | 9.2       | 18        | 3      | 110.88  | 100 |
| M10x1    | 1.00     | 90        | 7.0          | 5.5        | 9.0       | 18        | 3      | 66.99   | 102 |
| M10x1,25 | 1.25     | 100       | 7.0          | 5.5        | 8.8       | 22        | 3      | 96.51   | 104 |
| M11x1    | 1.00     | 90        | 8.0          | 6.2        | 10.0      | 18        | 3      | 104.07  | 110 |
| M12x1    | 1.00     | 100       | 9.0          | 7.0        | 11.0      | 18        | 3      | 82.27   | 120 |
| M12x1,25 | 1.25     | 100       | 9.0          | 7.0        | 10.8      | 22        | 3      | 106.24  | 122 |
| M12x1,5  | 1.50     | 100       | 9.0          | 7.0        | 10.5      | 22        | 3      | 78.22   | 124 |
| M14x1    | 1.00     | 100       | 11.0         | 9.0        | 13.0      | 18        | 4      | 108.31  | 140 |
| M14x1,5  | 1.50     | 100       | 11.0         | 9.0        | 12.5      | 22        | 3      | 105.16  | 144 |
| M15x1    | 1.00     | 100       | 12.0         | 9.0        | 14.0      | 18        | 4      | 140.20  | 150 |
| M16x1    | 1.00     | 100       | 12.0         | 9.0        | 15.0      | 18        | 4      | 126.93  | 160 |
| M16x1,5  | 1.50     | 100       | 12.0         | 9.0        | 14.5      | 22        | 3      | 124.36  | 162 |
| M18x1    | 1.00     | 110       | 14.0         | 11.0       | 17.0      | 20        | 4      | 174.71  | 180 |
| M18x1,5  | 1.50     | 110       | 14.0         | 11.0       | 16.5      | 25        | 4      | 156.55  | 182 |
| M18x2    | 2.00     | 125       | 14.0         | 11.0       | 16.0      | 26        | 3      | 253.09  | 184 |
| M20x1    | 1.00     | 125       | 16.0         | 12.0       | 19.0      | 20        | 4      | 172.85  | 200 |
| M20x1,5  | 1.50     | 125       | 16.0         | 12.0       | 18.5      | 25        | 4      | 158.25  | 202 |
| M20x2    | 2.00     | 140       | 16.0         | 12.0       | 18.0      | 27        | 3      | 217.48  | 204 |
| M22x1    | 1.00     | 125       | 18.0         | 14.5       | 21.0      | 20        | 4      | 223.93  | 220 |
| M22x1,5  | 1.50     | 125       | 18.0         | 14.5       | 20.5      | 25        | 4      | 182.08  | 222 |
| M22x2    | 2.00     | 140       | 18.0         | 14.5       | 20.0      | 27        | 4      | 223.93  | 224 |
| M24x1    | 1.00     | 140       | 18.0         | 14.5       | 23.0      | 20        | 5      | 238.73  | 240 |
| M24x1,5  | 1.50     | 140       | 18.0         | 14.5       | 22.5      | 27        | 4      | 197.90  | 242 |
| M24x2    | 2.00     | 140       | 18.0         | 14.5       | 22.0      | 27        | 4      | 233.72  | 244 |
| M25x1,5  | 1.50     | 140       | 18.0         | 14.5       | 23.5      | 28        | 4      | 332.04  | 252 |
| M27x1,5  | 1.50     | 140       | 20.0         | 16.0       | 25.5      | 28        | 4      | 288.50  | 270 |
| M27x2    | 2.00     | 140       | 20.0         | 16.0       | 25.0      | 28        | 4      | 322.65  | 272 |
| M28x2    | 2.00     | 140       | 20.0         | 16.0       | 26.0      | 28        | 4      | 377.24  | 282 |
| M30x1,5  | 1.50     | 150       | 22.0         | 18.0       | 28.5      | 28        | 5      | 329.63  | 302 |
| M30x2    | 2.00     | 150       | 22.0         | 18.0       | 28.0      | 28        | 4      | 347.73  | 304 |
| M32x1,5  | 1.50     | 150       | 22.0         | 18.0       | 30.5      | 28        | 6      | 377.24  | 320 |
| M33x2    | 2.00     | 160       | 25.0         | 20.0       | 31.0      | 30        | 4      | 460.97  | 332 |
| M34x1,5  | 1.50     | 170       | 28.0         | 22.0       | 32.5      | 30        | 6      | 512.06  | 340 |
| M36x2    | 2.00     | 170       | 28.0         | 22.0       | 34.0      | 30        | 5      | 587.00  | 362 |
| M36x3    | 3.00     | 200       | 28.0         | 22.0       | 33.0      | 42        | 4      | 542.34  | 364 |
| M40x1,5  | 1.50     | 170       | 32.0         | 24.0       | 38.5      | 30        | 6      | 573.34  | 400 |
| M42x2    | 2.00     | 170       | 32.0         | 24.0       | 40.0      | 30        | 6      | 693.24  | 422 |
| M42x3    | 3.00     | 200       | 32.0         | 24.0       | 39.0      | 45        | 4      | 733.26  | 424 |
| M45x1,5  | 1.50     | 180       | 36.0         | 29.0       | 43.5      | 32        | 6      | 681.06  | 450 |
| M48x2    | 2.00     | 190       | 36.0         | 29.0       | 46.0      | 32        | 6      | 957.19  | 482 |
| M48x3    | 3.00     | 225       | 36.0         | 29.0       | 45.0      | 50        | 5      | 981.57  | 484 |
| P        |          |           |              |            |           |           |        |         | 12  |
| M        |          |           |              |            |           |           |        |         |     |
| K        |          |           |              |            |           |           |        |         | 12  |
| N        |          |           |              |            |           |           |        |         | 22  |
| S        |          |           |              |            |           |           |        |         |     |
| H        |          |           |              |            |           |           |        |         |     |
| O        |          |           |              |            |           |           |        |         |     |

Cutting speed  $v_c$  (m/min.)

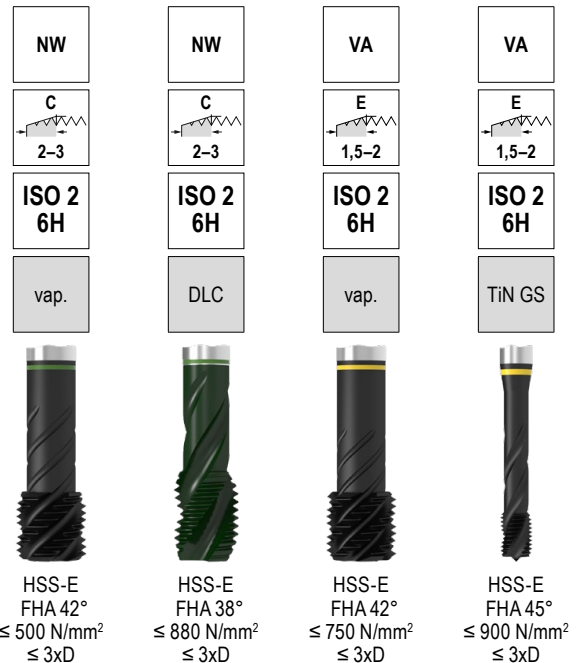
## Blind hole – Machine taps, right hand

CavTap

MF



DIN 371 with reinforced shank



| TD      | TP   | OAL | DCONMS | DRVS | PHD | THL | LU | Flutes |
|---------|------|-----|--------|------|-----|-----|----|--------|
| mm      | mm   | mm  | mm     | mm   | mm  | mm  | mm |        |
| M4x0,5  | 0.50 | 63  | 4.5    | 3.4  | 3.5 | 5   | 21 | 3      |
| M5x0,5  | 0.50 | 70  | 6.0    | 4.9  | 4.5 | 5   | 25 | 3      |
| M6x0,5  | 0.50 | 80  | 6.0    | 4.9  | 5.5 | 5   | 30 | 3      |
| M6x0,75 | 0.75 | 80  | 6.0    | 4.9  | 5.2 | 8   | 30 | 3      |

22 176 ...

£

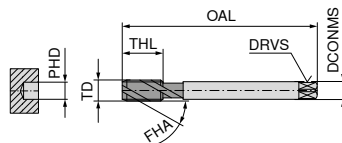
U0

113.25 040

93.53 050

93.53 060

93.53 062



DIN 374 with reduced shank

| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes |
|----------|------|-----|--------|------|------|-----|--------|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |        |
| M8x0,75  | 0.75 | 80  | 6      | 4.9  | 7.2  | 8   | 3      |
| M8x1     | 1.00 | 90  | 6      | 4.9  | 7.0  | 10  | 3      |
| M10x1    | 1.00 | 90  | 7      | 5.5  | 9.0  | 10  | 3      |
| M10x1    | 1.00 | 90  | 7      | 5.5  | 9.0  | 10  | 4      |
| M10x1,25 | 1.25 | 100 | 7      | 5.5  | 8.8  | 16  | 3      |
| M12x1    | 1.00 | 100 | 9      | 7.0  | 11.0 | 11  | 4      |
| M12x1,25 | 1.25 | 100 | 9      | 7.0  | 10.8 | 15  | 4      |
| M12x1,5  | 1.50 | 100 | 9      | 7.0  | 10.5 | 15  | 4      |
| M12x1,5  | 1.50 | 100 | 9      | 7.0  | 10.5 | 15  | 5      |
| M14x1    | 1.00 | 100 | 11     | 9.0  | 13.0 | 11  | 4      |
| M14x1,25 | 1.25 | 100 | 11     | 9.0  | 12.8 | 15  | 4      |
| M14x1,5  | 1.50 | 100 | 11     | 9.0  | 12.5 | 15  | 4      |
| M14x1,5  | 1.50 | 100 | 11     | 9.0  | 12.5 | 15  | 5      |
| M16x1    | 1.00 | 100 | 12     | 9.0  | 15.0 | 12  | 4      |
| M16x1,5  | 1.50 | 100 | 12     | 9.0  | 14.5 | 15  | 4      |
| M16x1,5  | 1.50 | 100 | 12     | 9.0  | 14.5 | 15  | 5      |
| M18x1,5  | 1.50 | 110 | 14     | 11.0 | 16.5 | 17  | 4      |
| M18x1,5  | 1.50 | 110 | 14     | 11.0 | 16.5 | 17  | 5      |
| M20x1,5  | 1.50 | 125 | 16     | 12.0 | 18.5 | 17  | 4      |
| M20x1,5  | 1.50 | 125 | 16     | 12.0 | 18.5 | 17  | 5      |
| M26x1,5  | 1.50 | 140 | 18     | 14.5 | 24.5 | 20  | 6      |
| M28x1,5  | 1.50 | 140 | 20     | 16.0 | 26.5 | 20  | 6      |
| M30x1,5  | 1.50 | 150 | 22     | 18.0 | 28.5 | 22  | 6      |

22 188 ...

£

U0

68.80 081

71.94 100

88.00 120

76.91 122

113.25 140

121.58 160

172.29 180

156.07 200

22 462 ...

£

U0

69.64 08000

75.20 10000

100.21 10200

90.24 12000

111.58 12200

89.06 12400

115.37 14000

116.55 14200

114.06 14400

132.87 16000

131.60 16200

22 189 ...

£

U0

67.72 082

79.51 100

104.06 121

88.54 120

108.86 140

132.28 160

184.46 200

439.04 260

517.38 280

508.80 300

22 177 ...

£

U0

98.34 082

117.73 084

131.20 102

156.99 120

149.98 124

191.30 144

221.95 162

268.96 182

332.62 202

|   |    |    |    |
|---|----|----|----|
| P | 15 | 8  | 10 |
| M |    | 6  | 8  |
| K |    |    |    |
| N | 22 | 15 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Cutting speed  $v_c$  (m/min.)

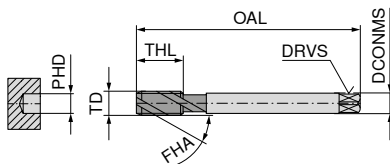
## Blind hole – Machine taps, right hand

MF

UNI

C  
2-3ISO 2  
6H

TiN



DIN 374 with reduced shank

HSS-PM  
FHA 40°  
≤ 1000 N/mm²  
≤ 2,5xD

23 047 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes | £<br>T9 |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|---------|-----|
| M8x1     | 1.00     | 90        | 6            | 4.9        | 7.0       | 10        | 35       | 3      | 25.44   | 081 |
| M10x1    | 1.00     | 90        | 7            | 5.5        | 9.0       | 10        | 35       | 4      | 33.27   | 102 |
| M10x1,25 | 1.25     | 100       | 7            | 5.5        | 8.8       | 16        | 39       | 4      | 32.41   | 104 |
| M12x1    | 1.00     | 100       | 9            | 7.0        | 11.0      | 11        | 40       | 4      | 37.80   | 120 |
| M12x1,25 | 1.25     | 100       | 9            | 7.0        | 10.8      | 15        | 40       | 5      | 41.21   | 122 |
| M12x1,5  | 1.50     | 100       | 9            | 7.0        | 10.5      | 15        | 40       | 5      | 36.66   | 121 |
| M14x1    | 1.00     | 100       | 11           | 9.0        | 12.8      | 11        | 40       | 4      | 44.21   | 140 |
| M14x1,5  | 1.50     | 100       | 11           | 9.0        | 12.5      | 15        | 40       | 5      | 43.35   | 144 |
| M16x1,5  | 1.50     | 100       | 12           | 9.0        | 14.5      | 15        | 44       | 5      | 56.14   | 162 |
| M18x1,5  | 1.50     | 110       | 14           | 11.0       | 16.5      | 17        | 44       | 5      | 73.06   | 182 |
| M20x1,5  | 1.50     | 125       | 16           | 12.0       | 18.5      | 17        | 44       | 5      | 83.42   | 202 |
| M22x1,5  | 1.50     | 125       | 18           | 14.5       | 20.5      | 17        | 44       | 5      | 91.83   | 222 |
| M24x1,5  | 1.50     | 140       | 18           | 14.5       | 22.5      | 20        | 48       | 5      | 93.51   | 242 |
| M24x2    | 2.00     | 140       | 18           | 14.5       | 22.0      | 20        | 48       | 5      | 108.87  | 244 |
| P        |          |           |              |            |           |           |          |        |         | 15  |
| M        |          |           |              |            |           |           |          |        |         | 9   |
| K        |          |           |              |            |           |           |          |        |         | 18  |
| N        |          |           |              |            |           |           |          |        |         | 12  |
| S        |          |           |              |            |           |           |          |        |         |     |
| H        |          |           |              |            |           |           |          |        |         |     |
| O        |          |           |              |            |           |           |          |        |         |     |

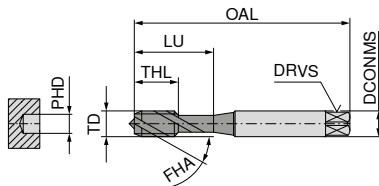
Cutting speed  $v_c$  (m/min.)



## Blind hole – Machine taps, right hand

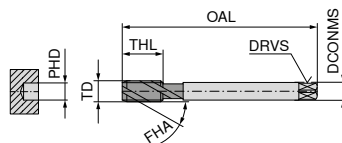
▲ NC = for synchronised CNC machining with minimum length compensation chuck

MF



DIN 371 with reinforced shank

| TD      | TP   | OAL | DCONMS | DRVS | PHD | THL | LU | Flutes |
|---------|------|-----|--------|------|-----|-----|----|--------|
| mm      | mm   | mm  | mm     | mm   | mm  | mm  | mm |        |
| M4x0,5  | 0.50 | 63  | 4.5    | 3.4  | 3.5 | 5   | 21 | 3      |
| M5x0,5  | 0.50 | 70  | 6.0    | 4.9  | 4.5 | 5   | 25 | 3      |
| M6x0,5  | 0.50 | 80  | 6.0    | 4.9  | 5.5 | 5   | 30 | 3      |
| M6x0,75 | 0.75 | 80  | 6.0    | 4.9  | 5.2 | 8   | 30 | 3      |



DIN 374 with reduced shank

| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Flutes |
|----------|------|-----|--------|------|------|-----|--------|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |        |
| M4x0,5   | 0.50 | 63  | 2.8    | 2.1  | 3.5  | 5   | 3      |
| M5x0,5   | 0.50 | 70  | 3.5    | 2.7  | 4.5  | 5   | 3      |
| M6x0,75  | 0.75 | 80  | 4.5    | 3.4  | 5.2  | 8   | 3      |
| M8x0,5   | 0.50 | 80  | 6.0    | 8.0  | 7.5  | 6   | 3      |
| M8x0,75  | 0.75 | 80  | 6.0    | 4.9  | 7.2  | 8   | 3      |
| M8x1     | 1.00 | 90  | 6.0    | 4.9  | 7.0  | 10  | 3      |
| M10x0,75 | 0.75 | 90  | 7.0    | 5.5  | 9.2  | 10  | 4      |
| M10x1    | 1.00 | 90  | 7.0    | 5.5  | 9.0  | 10  | 3      |
| M10x1    | 1.00 | 90  | 7.0    | 5.5  | 9.0  | 10  | 4      |
| M10x1,25 | 1.25 | 100 | 7.0    | 5.5  | 8.8  | 16  | 3      |
| M12x1    | 1.00 | 100 | 9.0    | 7.0  | 11.0 | 11  | 4      |
| M12x1,25 | 1.25 | 100 | 9.0    | 7.0  | 10.8 | 15  | 4      |
| M12x1,5  | 1.50 | 100 | 9.0    | 7.0  | 10.5 | 15  | 4      |
| M12x1,5  | 1.50 | 100 | 9.0    | 7.0  | 10.5 | 15  | 5      |
| M14x1    | 1.00 | 100 | 11.0   | 9.0  | 13.0 | 11  | 4      |
| M14x1,5  | 1.50 | 100 | 11.0   | 9.0  | 12.5 | 15  | 4      |
| M14x1,5  | 1.50 | 100 | 11.0   | 9.0  | 12.5 | 15  | 5      |
| M16x1    | 1.00 | 100 | 12.0   | 9.0  | 15.0 | 12  | 4      |
| M16x1,5  | 1.50 | 100 | 12.0   | 9.0  | 14.5 | 15  | 4      |
| M16x1,5  | 1.50 | 100 | 12.0   | 9.0  | 14.5 | 15  | 5      |
| M18x1,5  | 1.50 | 110 | 14.0   | 11.0 | 16.5 | 17  | 4      |
| M18x1,5  | 1.50 | 110 | 14.0   | 11.0 | 16.5 | 17  | 5      |
| M20x1,5  | 1.50 | 125 | 16.0   | 12.0 | 18.5 | 17  | 4      |
| M20x1,5  | 1.50 | 125 | 16.0   | 12.0 | 18.5 | 17  | 5      |
| M22x1,5  | 1.50 | 125 | 18.0   | 14.5 | 20.5 | 17  | 4      |
| M24x1,5  | 1.50 | 140 | 18.0   | 14.5 | 22.5 | 20  | 5      |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 12 | 15 | 12 | 15 |
| M |    | 9  | 7  | 9  |
| K | 12 | 18 | 12 | 18 |
| N | 22 | 12 |    | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Cutting speed  $v_c$  (m/min.)

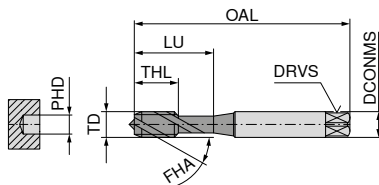
|                                            |                                           |                                             |                                             |
|--------------------------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------------|
| FE                                         | UNI NC                                    | UNI                                         | UNI                                         |
| C<br>2-3                                   | E<br>1,5-2                                | C<br>2-3                                    | C<br>2-3                                    |
| ISO 2<br>6H                                | ISO 2<br>6H                               | ISO 2<br>6H                                 | ISO 2<br>6H                                 |
|                                            | TiN GS                                    | vap.                                        | TiN                                         |
|                                            |                                           |                                             |                                             |
| HSS-E<br>FHA 35°<br>≤ 850 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 45°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD |

| 23 144 ... | 23 146 ... |
|------------|------------|
| £<br>T9    | £<br>T9    |
| 48.53 040  | 55.37 040  |
| 48.53 050  | 55.37 050  |
| 48.53 060  | 63.18 060  |
| 48.53 062  | 63.18 062  |

| 23 243 ... | 23 149 ... | 23 145 ... | 23 147 ... |
|------------|------------|------------|------------|
| £<br>T9    | £<br>T9    | £<br>T9    | £<br>T9    |
|            |            | 17.91 040  |            |
|            |            | 17.91 050  |            |
|            |            | 19.05 062  |            |
| 67.72 080  | 82.27 082  | 21.60 082  | 67.33 082  |
| 31.86 082  |            |            |            |
| 30.04 084  | 77.11 084  | 15.77 084  | 63.18 084  |
| 74.52 100  |            | 34.82 100  | 104.40 100 |
| 34.93 102  |            | 16.49 102  | 71.94 102  |
|            | 89.05 102  |            |            |
| 64.20 104  |            | 18.33 104  | 91.11 104  |
| 41.15 120  | 101.15 120 | 22.17 120  | 84.49 120  |
| 71.94 122  |            | 26.14 122  | 102.75 122 |
| 38.92 124  |            | 19.60 124  | 81.75 124  |
|            | 97.97 124  |            |            |
| 71.94 140  |            | 29.27 140  | 110.32 140 |
| 48.53 144  |            | 26.57 144  | 102.75 144 |
|            | 125.63 144 |            |            |
| 83.06 160  |            | 31.41 160  | 121.00 160 |
| 61.42 162  |            | 30.41 162  | 121.00 162 |
|            | 140.20 162 |            |            |
|            | 177.47 182 | 42.22 182  | 138.42 182 |
| 88.92 202  |            | 38.80 202  | 179.31 202 |
|            | 232.42 202 |            |            |
| 102.95 222 |            | 57.57 222  | 199.61 222 |
| 119.90 242 |            | 62.82 242  | 213.07 242 |

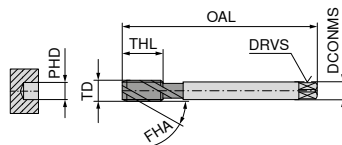
## Blind hole – Machine taps, right hand

MF



DIN 371 with reinforced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M5x0,5   | 0.50     | 70        | 6            | 4.9        | 4.5       | 5         | 25       | 3      |
| M6x0,75  | 0.75     | 80        | 6            | 4.9        | 5.2       | 8         | 30       | 3      |



DIN 374 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M8x0,75  | 0.75     | 80        | 6            | 4.9        | 7.2       | 8         | 3      |
| M8x1     | 1.00     | 90        | 6            | 4.9        | 7.0       | 10        | 3      |
| M10x1    | 1.00     | 90        | 7            | 5.5        | 9.0       | 10        | 4      |
| M12x1    | 1.00     | 100       | 9            | 7.0        | 11.0      | 11        | 4      |
| M12x1,5  | 1.50     | 100       | 9            | 7.0        | 10.5      | 15        | 5      |
| M14x1,5  | 1.50     | 100       | 11           | 9.0        | 12.5      | 15        | 5      |
| M16x1,5  | 1.50     | 100       | 12           | 9.0        | 14.5      | 15        | 5      |

|   |    |
|---|----|
| P | 10 |
| M | 8  |
| K |    |
| N | 24 |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

VA

ISO 2  
6H

TiN

HSS-E  
FHA 45°  
≤ 1200 N/mm²  
≤ 3xD

23 442 ...

£

T9

54.81

050

63.18

062

23 443 ...

£

T9

67.33

082

63.18

084

72.52

102

84.86

120

81.75

124

103.53

144

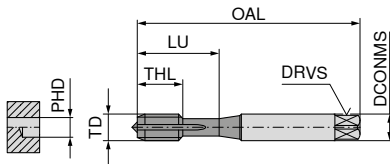
116.74

162

## Through hole / Blind hole – Machine taps, right hand

DuoTap

MF



DIN 371 with reinforced shank

|            |            |            |
|------------|------------|------------|
| ST         | HR         | HT         |
|            |            |            |
| ISO 2X 6HX | ISO 2X 6HX | ISO 2X 6HX |
|            | nit.       | OSM        |

HSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xDHSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xDSolid carbide  
FHA 0°  
≤ 63 HRC  
≤ 1,5xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M4x0,5   | 0.50     | 63        | 4.5          | 3.4        | 3.5       | 10        | 21       | 3      |
| M5x0,5   | 0.50     | 70        | 6.0          | 4.9        | 4.5       | 11        | 25       | 3      |
| M6x0,5   | 0.50     | 80        | 6.0          | 4.9        | 5.5       | 13        | 30       | 3      |
| M6x0,75  | 0.75     | 80        | 6.0          | 4.9        | 5.2       | 13        | 30       | 3      |
| M8x1     | 1.00     | 90        | 8.0          | 6.2        | 7.0       | 17        | 35       | 3      |
| M8x1     | 1.00     | 90        | 8.0          | 6.2        | 7.1       | 15        | 35       | 5      |
| M10x1    | 1.00     | 90        | 10.0         | 8.0        | 9.0       | 18        | 35       | 4      |
| M10x1    | 1.00     | 100       | 10.0         | 8.0        | 9.1       | 18        | 38       | 5      |
| M12x1,5  | 1.50     | 110       | 12.0         | 9.0        | 10.6      | 21        | 41       | 5      |
| M14x1,5  | 1.50     | 110       | 14.0         | 11.0       | 12.6      | 24        | 44       | 6      |
| M16x1,5  | 1.50     | 110       | 16.0         | 12.0       | 14.6      | 24        | 44       | 6      |

22 144 ...

£

U0

66.06

040

66.06

050

66.06

060

66.06

062

66.06

084

66.06

104

22 146 ...

£

U0

74.52

040

74.52

050

74.52

060

74.52

062

22 817 ...

£

U0

512.65

080

650.25

100

759.26

120

887.65

140

1,010.72

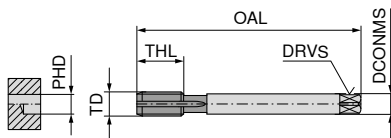
160

|   |    |    |
|---|----|----|
| P | 12 | 6  |
| M |    |    |
| K | 12 | 16 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    | 2  |

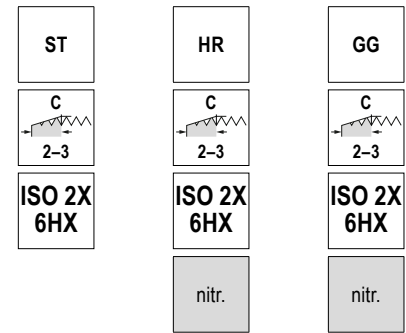
Cutting speed  $v_c$  (m/min.)

DIN 374 can be found on the next page

## Through hole / Blind hole – Machine taps, right hand



**DIN 374** with reduced shank



HSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xD



HSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xD



HSS-E  
FHA 0°  
≤ 1050 N/mm<sup>2</sup>  
≤ 2xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M4x0,5   | 0.50     | 63        | 2.8          | 2.1        | 3.5       | 10        | 3      |
| M5x0,5   | 0.50     | 70        | 3.5          | 2.7        | 4.5       | 11        | 3      |
| M6x0,5   | 0.50     | 80        | 4.5          | 3.4        | 5.5       | 13        | 3      |
| M6x0,75  | 0.75     | 80        | 4.5          | 3.4        | 5.2       | 13        | 3      |
| M8x0,75  | 0.75     | 80        | 6.0          | 4.9        | 7.2       | 14        | 3      |
| M8x1     | 1.00     | 90        | 6.0          | 4.9        | 7.0       | 17        | 3      |
| M10x0,75 | 0.75     | 90        | 7.0          | 5.5        | 9.2       | 18        | 4      |
| M10x1    | 1.00     | 90        | 7.0          | 5.5        | 9.0       | 18        | 4      |
| M10x1,25 | 1.25     | 100       | 7.0          | 5.5        | 8.8       | 22        | 3      |
| M11x1    | 1.00     | 90        | 8.0          | 6.2        | 10.0      | 18        | 4      |
| M12x1    | 1.00     | 100       | 9.0          | 7.0        | 11.0      | 18        | 4      |
| M12x1,25 | 1.25     | 100       | 9.0          | 7.0        | 10.8      | 22        | 4      |
| M12x1,5  | 1.50     | 100       | 9.0          | 7.0        | 10.5      | 22        | 4      |
| M14x1    | 1.00     | 100       | 11.0         | 9.0        | 13.0      | 18        | 4      |
| M14x1,25 | 1.25     | 100       | 11.0         | 9.0        | 12.8      | 22        | 4      |
| M14x1,5  | 1.50     | 100       | 11.0         | 9.0        | 12.5      | 22        | 4      |
| M16x1    | 1.00     | 100       | 12.0         | 9.0        | 15.0      | 18        | 5      |
| M16x1,5  | 1.50     | 100       | 12.0         | 9.0        | 14.5      | 22        | 4      |
| M18x1    | 1.00     | 110       | 14.0         | 11.0       | 17.0      | 20        | 5      |
| M18x1,5  | 1.50     | 110       | 14.0         | 11.0       | 16.5      | 25        | 4      |
| M18x2    | 2.00     | 125       | 14.0         | 11.0       | 16.0      | 26        | 4      |
| M20x1    | 1.00     | 125       | 16.0         | 12.0       | 19.0      | 20        | 5      |
| M20x1,5  | 1.50     | 125       | 16.0         | 12.0       | 18.5      | 25        | 4      |
| M20x2    | 2.00     | 140       | 16.0         | 12.0       | 18.0      | 27        | 4      |
| M22x1    | 1.00     | 125       | 18.0         | 14.5       | 21.0      | 20        | 5      |
| M22x1,5  | 1.50     | 125       | 18.0         | 14.5       | 20.5      | 25        | 4      |
| M22x2    | 2.00     | 140       | 18.0         | 14.5       | 20.0      | 27        | 4      |
| M24x1    | 1.00     | 140       | 18.0         | 14.5       | 23.0      | 20        | 6      |
| M24x1,5  | 1.50     | 140       | 18.0         | 14.5       | 22.5      | 27        | 4      |
| M24x2    | 2.00     | 140       | 18.0         | 14.5       | 22.0      | 27        | 4      |
| M25x1,5  | 1.50     | 140       | 18.0         | 14.5       | 23.5      | 28        | 4      |
| M26x1,5  | 1.50     | 140       | 18.0         | 14.5       | 24.5      | 28        | 4      |
| M27x1,5  | 1.50     | 140       | 20.0         | 16.0       | 25.5      | 28        | 5      |
| M27x2    | 2.00     | 140       | 20.0         | 16.0       | 25.0      | 28        | 4      |
| M28x1,5  | 1.50     | 140       | 20.0         | 16.0       | 26.5      | 28        | 5      |
| M30x1,5  | 1.50     | 150       | 22.0         | 18.0       | 28.5      | 28        | 5      |
| M30x2    | 2.00     | 150       | 22.0         | 18.0       | 28.0      | 28        | 4      |

| 22 171 ... |     | 22 209 ... |     | 22 173 ... |     |
|------------|-----|------------|-----|------------|-----|
| £<br>U0    |     | £<br>U0    |     | £<br>U0    |     |
| 51.77      | 042 |            |     |            |     |
| 64.02      | 050 |            |     | 59.61      | 050 |
| 58.83      | 060 |            |     | 74.89      | 060 |
| 58.63      | 062 |            |     | 65.10      | 062 |
| 65.86      | 082 |            |     | 114.21     | 080 |
| 52.31      | 084 | 74.52      | 082 | 114.21     | 082 |
| 85.05      | 102 |            |     |            |     |
| 54.81      | 104 | 74.52      | 100 | 64.20      | 100 |
| 65.10      | 106 |            |     |            |     |
| 95.72      | 110 |            |     |            |     |
| 62.44      | 122 |            |     | 75.11      | 120 |
| 78.06      | 124 |            |     |            |     |
| 62.44      | 126 | 87.79      | 120 | 69.67      | 124 |
| 95.72      | 140 |            |     | 109.01     | 140 |
| 88.54      | 142 |            |     |            |     |
| 91.87      | 144 | 114.21     | 140 | 99.06      | 142 |
| 99.06      | 160 |            |     |            |     |
| 89.05      | 162 | 124.91     | 160 | 101.15     | 160 |
| 129.12     | 180 |            |     |            |     |
| 119.39     | 182 | 145.68     | 180 | 137.63     | 180 |
| 144.47     | 184 |            |     |            |     |
| 140.20     | 200 |            |     |            |     |
| 130.80     | 202 | 186.67     | 200 | 145.55     | 200 |
| 180.98     | 204 |            |     |            |     |
| 192.96     | 220 |            |     |            |     |
| 140.20     | 222 |            |     | 154.77     | 220 |
| 199.22     | 224 |            |     |            |     |
| 221.72     | 240 |            |     |            |     |
| 156.07     | 242 |            |     | 177.06     | 240 |
| 178.56     | 244 |            |     |            |     |
| 288.50     | 250 |            |     |            |     |
| 223.22     | 260 |            |     | 217.48     | 260 |
| 258.62     | 272 |            |     |            |     |
| 242.21     | 274 |            |     |            |     |
|            |     |            |     | 257.85     | 280 |
| 250.14     | 300 |            |     | 283.19     | 300 |
| 302.53     | 302 |            |     |            |     |

|   |    |    |    |
|---|----|----|----|
| P | 12 | 6  |    |
| M |    |    |    |
| K | 12 | 16 | 16 |
| N | 22 | 22 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Cutting speed  $v_c$  (m/min.)

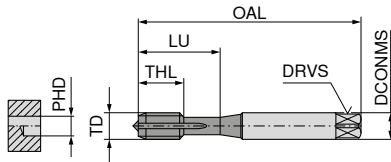
## Through Hole / Blind Hole – Machine taps

▲ ES = extra short

▲ LH = for left hand threads; ES = extra short

DuoTap

MF



DIN 2181 with reinforced shank

ST  
ESISO 2X  
6HXST  
LH/ESISO 2X  
6HXHSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xDHSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M3x0,35  | 0.35     | 40        | 3.5          | 2.7        | 2.65      | 8         | 18       | 3      |
| M4x0,35  | 0.35     | 45        | 4.5          | 3.4        | 3.65      | 9         | 22       | 3      |
| M4x0,5   | 0.50     | 45        | 4.5          | 3.4        | 3.50      | 9         | 22       | 3      |
| M4,5x0,5 | 0.50     | 50        | 6.0          | 4.9        | 4.00      | 10        | 24       | 3      |
| M5x0,5   | 0.50     | 50        | 6.0          | 4.9        | 4.50      | 11        | 25       | 3      |
| M6x0,5   | 0.50     | 56        | 6.0          | 4.9        | 5.50      | 12        | 27       | 3      |
| M6x0,75  | 0.75     | 56        | 6.0          | 4.9        | 5.20      | 12        | 27       | 3      |
| M7x0,75  | 0.75     | 56        | 6.0          | 4.9        | 6.20      | 14        |          | 3      |
| M8x0,5   | 0.50     | 56        | 6.0          | 4.9        | 7.50      | 14        |          | 4      |
| M8x0,75  | 0.75     | 56        | 6.0          | 4.9        | 7.20      | 14        |          | 3      |
| M8x1     | 1.00     | 63        | 6.0          | 4.9        | 7.00      | 17        |          | 3      |
| M9x1     | 1.00     | 63        | 7.0          | 5.5        | 8.00      | 17        |          | 4      |
| M10x0,75 | 0.75     | 63        | 7.0          | 5.5        | 9.20      | 18        |          | 4      |
| M10x1    | 1.00     | 63        | 7.0          | 5.5        | 9.00      | 18        |          | 4      |
| M10x1,25 | 1.25     | 70        | 7.0          | 5.5        | 8.80      | 22        |          | 3      |
| M11x1    | 1.00     | 63        | 8.0          | 6.2        | 10.00     | 18        |          | 4      |
| M12x1    | 1.00     | 70        | 9.0          | 7.0        | 11.00     | 18        |          | 4      |
| M12x1,25 | 1.25     | 70        | 9.0          | 7.0        | 10.80     | 20        |          | 4      |
| M12x1,5  | 1.50     | 70        | 9.0          | 7.0        | 10.50     | 20        |          | 4      |
| M13x1    | 1.00     | 70        | 11.0         | 9.0        | 12.00     | 18        |          | 4      |
| M14x1    | 1.00     | 70        | 11.0         | 9.0        | 13.00     | 18        |          | 4      |
| M14x1,25 | 1.25     | 70        | 11.0         | 9.0        | 12.80     | 20        |          | 4      |
| M14x1,5  | 1.50     | 70        | 11.0         | 9.0        | 12.50     | 20        |          | 4      |
| M15x1    | 1.00     | 70        | 12.0         | 9.0        | 14.00     | 18        |          | 5      |
| M16x1    | 1.00     | 70        | 12.0         | 9.0        | 15.00     | 18        |          | 5      |
| M16x1,5  | 1.50     | 70        | 12.0         | 9.0        | 14.50     | 20        |          | 4      |
| M18x1    | 1.00     | 80        | 14.0         | 11.0       | 17.00     | 18        |          | 5      |
| M18x1,5  | 1.50     | 80        | 14.0         | 11.0       | 16.50     | 22        |          | 4      |
| M18x2    | 2.00     | 80        | 14.0         | 11.0       | 16.00     | 22        |          | 4      |
| M20x1,5  | 1.50     | 80        | 16.0         | 12.0       | 18.50     | 22        |          | 4      |
| M20x2    | 2.00     | 80        | 16.0         | 12.0       | 18.00     | 22        |          | 4      |

|   |    |    |
|---|----|----|
| P | 12 | 12 |
| M |    |    |
| K | 12 | 12 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

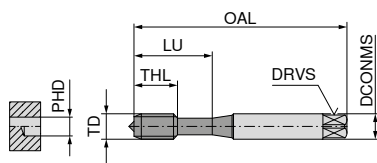
## Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

▲ HML = with soldered-in carbide strips for a higher cutting speed

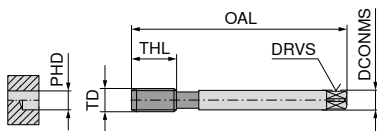
DuoForm

MF



DIN 2174 with reinforced shank

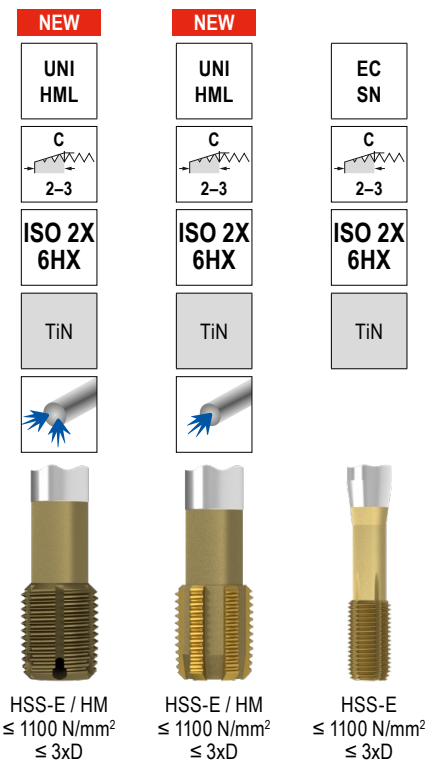
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M4x0,5   | 0.50     | 63        | 4.5          | 3.4        | 3.8       | 10        | 21       | 4      |
| M5x0,5   | 0.50     | 70        | 6.0          | 4.9        | 4.8       | 11        | 25       | 4      |
| M6x0,5   | 0.50     | 80        | 6.0          | 4.9        | 5.8       | 13        | 30       | 5      |
| M6x0,75  | 0.75     | 80        | 6.0          | 4.9        | 5.7       | 13        | 30       | 4      |
| M8x0,75  | 0.75     | 80        | 8.0          | 6.2        | 7.7       | 14        | 30       | 5      |
| M8x1     | 1.00     | 90        | 8.0          | 6.2        | 7.6       | 17        | 35       | 5      |
| M10x1    | 1.00     | 90        | 10.0         | 8.0        | 9.6       | 18        | 35       | 5      |



DIN 2174 with reduced shank

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12x1    | 1.0      | 100       | 9            | 7          | 11.60     | 18        | 6      |
| M12x1,5  | 1.5      | 100       | 9            | 7          | 11.35     | 13        |        |
| M12x1,5  | 1.5      | 100       | 9            | 7          | 11.35     | 22        | 6      |
| M14x1,5  | 1.5      | 100       | 11           | 9          | 13.35     | 22        | 6      |
| M16x1,5  | 1.5      | 100       | 12           | 9          | 15.35     | 18        |        |
| M16x1,5  | 1.5      | 100       | 12           | 9          | 15.35     | 22        | 6      |
| M20x1,5  | 1.5      | 125       | 16           | 12         | 19.35     | 25        | 6      |

| P | 30 | 30 | 18 |
|---|----|----|----|
| M | 20 | 20 | 10 |
| K | 30 | 30 | 10 |
| N | 40 | 40 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Cutting speed  $v_c$  (m/min.)

22 205 ...

£

U0

040

050

060

062

080

082

100

22 474 ...

£

U0

701.62

16100

22 474 ...

£

U0

490.95

12000

560.28

16000

22 197 ...

£

U0

124.83

120

124

140

160

200

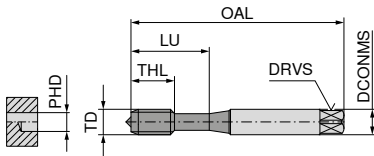
## Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

MF

UNI  
SNC  
2-3ISO 2X  
6HX

TiN



DIN 2174 with reinforced shank

HSS-E  
≤ 850 N/mm<sup>2</sup>  
≤ 3xD

23 842 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| M4x0,5   | 0.50     | 63        | 4.5          | 3.4        | 3.80      | 10        | 21       | 4      |
| M5x0,5   | 0.50     | 70        | 6.0          | 4.9        | 4.80      | 11        | 25       | 4      |
| M6x0,5   | 0.50     | 80        | 6.0          | 4.9        | 5.80      | 13        | 30       | 5      |
| M8x1     | 1.00     | 90        | 8.0          | 6.2        | 7.60      | 17        | 35       | 5      |
| M10x1    | 1.00     | 90        | 10.0         | 8.0        | 9.60      | 18        | 35       | 5      |
| M10x1,25 | 1.25     | 100       | 10.0         | 8.0        | 9.45      | 18        | 39       | 5      |

£

T9

88.17

040

78.20

050

88.77

060

84.49

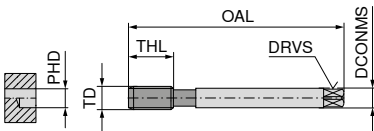
084

93.74

102

114.21

104



DIN 2174 with reduced shank

23 843 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| M12x1,25 | 1.25     | 100       | 9            | 7          | 11.45     | 22        | 6      |
| M12x1,5  | 1.50     | 100       | 9            | 7          | 11.35     | 22        | 6      |
| M14x1,5  | 1.50     | 100       | 11           | 9          | 13.35     | 22        | 6      |
| M16x1,5  | 1.50     | 100       | 12           | 9          | 15.35     | 22        | 6      |

£

T9

124.71

122

111.26

124

138.17

144

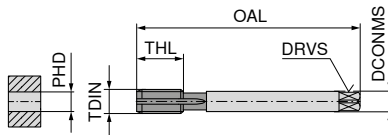
161.07

162

|   |    |
|---|----|
| P | 18 |
| M | 10 |
| K | 10 |
| N | 22 |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

## Through hole – Machine taps, right hand



DIN 5156 with reduced shank

| UNI                                                  | UNI                                                  | ST                                                  | NW                                                  | VA                                                  |
|------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
|                                                      |                                                      |                                                     |                                                     |                                                     |
| ISO 228                                              | ISO 228                                              | ISO 228                                             | ISO 228                                             | ISO 228                                             |
| nitr. + vap.                                         | TiN                                                  |                                                     | DLC                                                 | nitr.                                               |
|                                                      |                                                      |                                                     |                                                     |                                                     |
| HSS-E<br>FHA 0°<br>≤ 1100 N/mm <sup>2</sup><br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm <sup>2</sup><br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 750 N/mm <sup>2</sup><br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 880 N/mm <sup>2</sup><br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 900 N/mm <sup>2</sup><br>≤ 4xD |

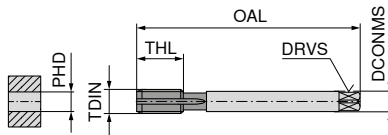
| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | 22 632 ... |     | 22 630 ... |     | 22 346 ... |     | 22 467 ... |       | 22 352 ... |     |
|--------|----------|-----------|--------------|------------|-----------|-----------|--------|------------|-----|------------|-----|------------|-----|------------|-------|------------|-----|
|        |          |           |              |            |           |           |        | £<br>U0    |     | £<br>U0    |     | £<br>U0    |     | £<br>U0    |       | £<br>U0    |     |
| 1/8-28 | 0.907    | 90        | 7            | 5.5        | 8.80      | 18        | 3      | 79.20      | 012 | 129.68     | 012 | 63.27      | 012 | 71.01      | 01200 | 78.72      | 012 |
| 1/4-19 | 1.337    | 100       | 11           | 9.0        | 11.80     | 22        | 3      | 105.06     | 025 | 171.21     | 025 | 84.16      | 025 | 94.92      | 02500 | 103.55     | 025 |
| 3/8-19 | 1.337    | 100       | 12           | 9.0        | 15.25     | 22        | 3      | 130.43     | 037 | 198.31     | 037 | 101.10     | 037 | 121.82     | 03700 | 130.80     | 037 |
| 1/2-14 | 1.814    | 125       | 16           | 12.0       | 19.00     | 25        | 4      | 167.16     | 050 | 306.43     | 050 | 140.77     | 050 | 162.06     | 05000 | 172.29     | 050 |
| 3/4-14 | 1.814    | 140       | 20           | 16.0       | 24.50     | 28        | 4      | 278.23     | 075 |            |     | 225.98     | 075 | 256.88     | 07500 | 255.49     | 075 |
| 1-11   | 2.309    | 160       | 25           | 20.0       | 30.75     | 30        | 4      | 414.58     | 100 |            |     | 321.18     | 100 | 378.02     | 10000 | 394.76     | 100 |
| P      |          |           |              |            |           |           |        | 12         |     | 15         |     | 12         |     |            |       | 8          |     |
| M      |          |           |              |            |           |           |        | 7          |     | 9          |     |            |     |            |       | 6          |     |
| K      |          |           |              |            |           |           |        | 12         |     | 18         |     | 12         |     |            |       |            |     |
| N      |          |           |              |            |           |           |        |            |     | 12         |     | 22         |     | 15         |       | 22         |     |
| S      |          |           |              |            |           |           |        |            |     |            |     |            |     |            |       |            |     |
| H      |          |           |              |            |           |           |        |            |     |            |     |            |     |            |       |            |     |
| O      |          |           |              |            |           |           |        |            |     |            |     |            |     |            |       |            |     |

Cutting speed v<sub>c</sub> (m/min.)



## Through hole – Machine taps, right hand

G



DIN 5156 with reduced shank

| TDIN   | TP    | OAL | DCONMS | DRVS | PHD   | THL | Flutes |
|--------|-------|-----|--------|------|-------|-----|--------|
| mm     | mm    | mm  | mm     | mm   | mm    | mm  |        |
| 1/8-28 | 0.907 | 90  | 7      | 5.5  | 8.80  | 18  | 3      |
| 1/4-19 | 1.337 | 100 | 11     | 9.0  | 11.80 | 22  | 3      |
| 3/8-19 | 1.337 | 100 | 12     | 9.0  | 15.25 | 22  | 3      |
| 1/2-14 | 1.814 | 125 | 16     | 12.0 | 19.00 | 25  | 4      |
| 3/4-14 | 1.814 | 140 | 20     | 16.0 | 24.50 | 28  | 4      |
| 1-11   | 2.309 | 160 | 25     | 20.0 | 30.75 | 30  | 4      |

|   |    |    |
|---|----|----|
| P | 12 | 15 |
| M | 7  | 9  |
| K | 12 | 18 |
| N |    | 12 |
| S |    |    |
| H |    |    |
| O |    |    |

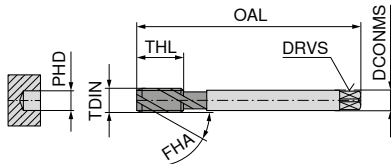
Cutting speed  $v_c$  (m/min.)

|                                                             |                                                             |
|-------------------------------------------------------------|-------------------------------------------------------------|
| UNI                                                         | UNI                                                         |
| B<br>4-5                                                    | B<br>4-5                                                    |
| ISO 228                                                     | ISO 228                                                     |
| nitr. +<br>vap.                                             | TiN                                                         |
|                                                             |                                                             |
| HSS-E<br>FHA 0°<br>$\leq 1100 \text{ N/mm}^2$<br>$\leq 3xD$ | HSS-E<br>FHA 0°<br>$\leq 1100 \text{ N/mm}^2$<br>$\leq 3xD$ |
| 23 161 ...                                                  | 23 160 ...                                                  |
| £<br>T9                                                     | £<br>T9                                                     |
| 48.70 012                                                   | 71.59 012                                                   |
| 65.52 025                                                   | 94.65 025                                                   |
| 83.59 037                                                   | 111.26 037                                                  |
| 109.50 050                                                  | 170.82 050                                                  |
| 178.96 075                                                  | 222.83 075                                                  |
| 244.06 100                                                  | 412.67 100                                                  |

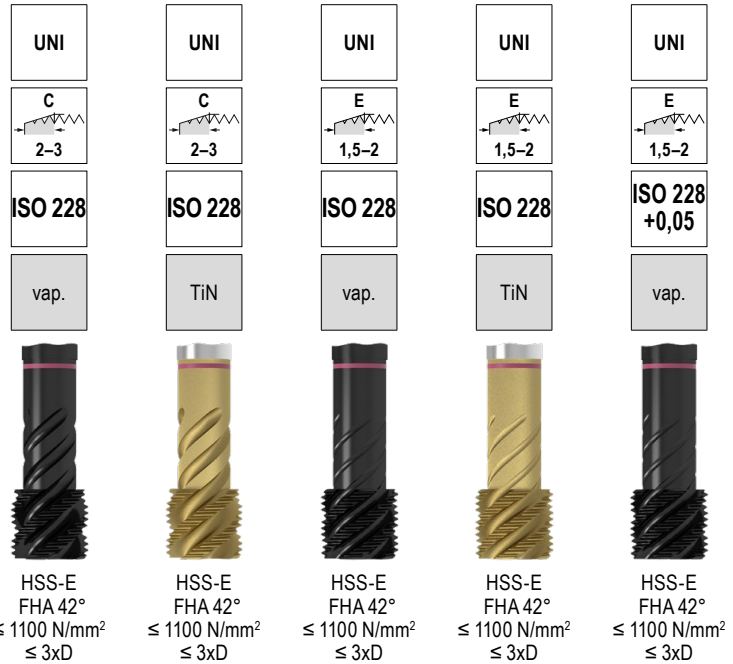
## Blind hole – Machine taps, right hand

CavTap

G



DIN 5156 with reduced shank

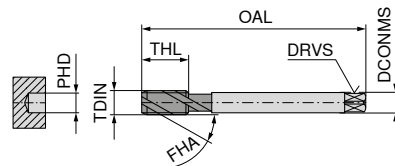


| TDIN     | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | 22 633 ... |     | 22 634 ... |     | 22 635 ... |     | 22 636 ... |     | 22 639 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|
|          |          |           |              |            |           |           |        | £<br>U0    |     | £<br>U0    |     | £<br>U0    |     | £<br>U0    |     | £<br>U0    |     |
| 1/8-28   | 0.907    | 90        | 7            | 5.5        | 8.80      | 10        | 3      | 78.45      | 012 | 116.20     | 012 | 80.62      | 012 | 116.20     | 012 | 127.14     | 012 |
| 1/8-28   | 0.907    | 90        | 7            | 5.5        | 8.80      | 10        | 4      | 112.47     | 025 | 147.57     | 025 | 108.21     | 025 | 147.57     | 025 | 165.61     | 025 |
| 1/4-19   | 1.337    | 100       | 11           | 9.0        | 11.80     | 15        | 5      | 136.58     | 037 | 206.41     | 037 | 132.97     | 037 | 206.41     | 037 | 205.32     | 037 |
| 3/8-19   | 1.337    | 100       | 12           | 9.0        | 15.25     | 15        | 4      | 180.51     | 050 | 292.58     | 050 | 172.29     | 050 | 292.58     | 050 | 268.42     | 050 |
| 3/8-19   | 1.337    | 100       | 12           | 9.0        | 15.25     | 15        | 5      | 223.78     | 062 |            |     |            |     |            |     |            |     |
| 1/2-14   | 1.814    | 125       | 16           | 12.0       | 19.00     | 17        | 4      | 280.03     | 075 |            |     |            |     |            |     | 401.23     | 075 |
| 1/2-14   | 1.814    | 125       | 16           | 12.0       | 19.00     | 17        | 5      | 382.44     | 087 |            |     |            |     |            |     |            |     |
| 5/8-14   | 1.814    | 125       | 18           | 14.5       | 21.00     | 17        | 4      | 431.54     | 100 |            |     |            |     |            |     | 612.42     | 100 |
| 3/4-14   | 1.814    | 140       | 20           | 16.0       | 24.50     | 20        | 5      | 679.10     | 125 |            |     |            |     |            |     |            |     |
| 7/8-14   | 1.814    | 150       | 22           | 18.0       | 28.25     | 22        | 5      | 971.17     | 150 |            |     |            |     |            |     |            |     |
| 1-11     | 2.309    | 160       | 25           | 20.0       | 30.75     | 24        | 6      |            |     |            |     |            |     |            |     |            |     |
| 1-11     | 2.309    | 160       | 25           | 20.0       | 30.75     | 24        | 6      |            |     |            |     |            |     |            |     |            |     |
| 1 1/4-11 | 2.309    | 170       | 32           | 24.0       | 39.50     | 25        | 6      |            |     |            |     |            |     |            |     |            |     |
| 1 1/2-11 | 2.309    | 190       | 36           | 29.0       | 45.25     | 27        | 6      |            |     |            |     |            |     |            |     |            |     |
| P        |          |           |              |            |           |           |        | 12         |     | 15         |     | 12         |     | 15         |     | 12         |     |
| M        |          |           |              |            |           |           |        | 7          |     | 9          |     | 7          |     | 9          |     | 7          |     |
| K        |          |           |              |            |           |           |        | 12         |     | 18         |     | 12         |     | 18         |     | 12         |     |
| N        |          |           |              |            |           |           |        |            |     | 12         |     |            |     | 12         |     |            |     |
| S        |          |           |              |            |           |           |        |            |     |            |     |            |     |            |     |            |     |
| H        |          |           |              |            |           |           |        |            |     |            |     |            |     |            |     |            |     |
| O        |          |           |              |            |           |           |        |            |     |            |     |            |     |            |     |            |     |

Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck



DIN 5156 with reduced shank

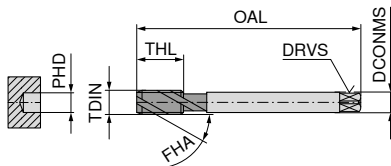
| UNI<br>CNC                                | ST                                       | NW                                         | VA                                       | VA                                       |
|-------------------------------------------|------------------------------------------|--------------------------------------------|------------------------------------------|------------------------------------------|
| E<br>1,5-2                                | C<br>2-3                                 | C<br>2-3                                   | E<br>1,5-2                               | E<br>1,5-2                               |
| ISO 228                                   | ISO 228                                  | ISO 228                                    | ISO 228                                  | ISO 228                                  |
| TiN GS                                    |                                          | DLC                                        | vap.                                     | TiN GS                                   |
|                                           |                                          |                                            |                                          |                                          |
| HSS-E<br>FHA 45°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 750 N/mm²<br>≤ 3xD | HSS-E<br>FHA 36°<br>≤ 880 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 42°<br>≤ 900 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 900 N/mm²<br>≤ 3xD |

| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes | 22 624 ... |     | 22 354 ... |     | 22 463 ... |       | 22 355 ... |     | 22 358 ... |     |
|--------|----------|-----------|--------------|------------|-----------|-----------|--------|------------|-----|------------|-----|------------|-------|------------|-----|------------|-----|
|        |          |           |              |            |           |           |        | £<br>U0    |     | £<br>U0    |     | £<br>U0    |       | £<br>U0    |     | £<br>U0    |     |
| 1/8-28 | 0.907    | 90        | 7            | 5.5        | 8.80      | 10        | 3      |            | 012 | 72.16      | 012 | 79.00      | 01200 | 81.18      | 012 | 142.77     | 012 |
| 1/8-28 | 0.907    | 90        | 7            | 5.5        | 8.80      | 10        | 4      | 140.77     |     | 99.06      | 025 | 114.06     | 02500 | 110.15     | 025 | 187.62     | 025 |
| 1/4-19 | 1.337    | 100       | 11           | 9.0        | 11.80     | 15        | 4      |            |     | 121.58     | 037 | 135.95     | 03700 | 132.28     | 037 | 221.95     | 037 |
| 1/4-19 | 1.337    | 100       | 11           | 9.0        | 11.80     | 15        | 5      | 185.21     | 025 |            |     |            |       |            |     |            |     |
| 3/8-19 | 1.337    | 100       | 12           | 9.0        | 15.25     | 15        | 4      |            |     | 156.07     | 050 | 173.64     | 05000 | 179.65     | 050 | 332.62     | 050 |
| 3/8-19 | 1.337    | 100       | 12           | 9.0        | 15.25     | 15        | 5      | 218.61     | 037 |            |     |            |       | 247.03     | 062 |            |     |
| 1/2-14 | 1.814    | 125       | 16           | 12.0       | 19.00     | 17        | 4      |            |     |            |     |            |       | 277.27     | 075 |            |     |
| 1/2-14 | 1.814    | 125       | 16           | 12.0       | 19.00     | 17        | 5      | 327.97     | 050 |            |     |            |       |            |     |            |     |
| 5/8-14 | 1.814    | 125       | 18           | 14.5       | 21.00     | 17        | 5      |            |     | 249.04     | 075 | 276.89     | 07500 |            |     |            |     |
| 3/4-14 | 1.814    | 140       | 20           | 16.0       | 24.50     | 20        | 4      |            |     |            |     |            |       |            |     |            |     |
| 3/4-14 | 1.814    | 140       | 20           | 16.0       | 24.50     | 20        | 5      |            |     |            |     |            |       |            |     |            |     |
| 1-11   | 2.309    | 160       | 25           | 20.0       | 30.75     | 24        | 5      |            |     | 385.20     | 100 | 443.58     | 10000 | 427.79     | 100 |            |     |
| 1-11   | 2.309    | 160       | 25           | 20.0       | 30.75     | 24        | 6      |            |     |            |     |            |       |            |     |            |     |
| P      |          |           |              |            |           |           |        | 15         |     | 12         |     |            |       | 8          |     | 10         |     |
| M      |          |           |              |            |           |           |        | 9          |     |            |     |            |       | 6          |     | 8          |     |
| K      |          |           |              |            |           |           |        | 18         |     | 12         |     |            |       |            |     |            |     |
| N      |          |           |              |            |           |           |        | 12         |     | 22         |     | 15         |       | 22         |     | 22         |     |
| S      |          |           |              |            |           |           |        |            |     |            |     |            |       |            |     |            |     |
| H      |          |           |              |            |           |           |        |            |     |            |     |            |       |            |     |            |     |
| O      |          |           |              |            |           |           |        |            |     |            |     |            |       |            |     |            |     |

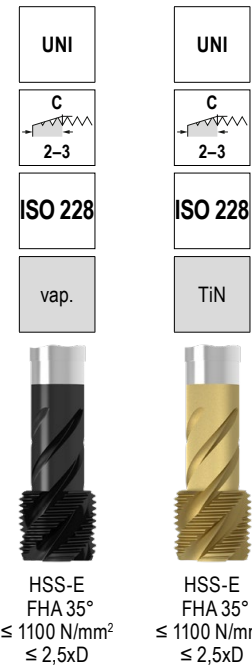
Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

G



DIN 5156 with reduced shank



| 23 163 ... |     | 23 162 ... |     |
|------------|-----|------------|-----|
| £          |     | £          |     |
| T9         |     | T9         |     |
| 54.95      | 012 | 74.52      | 012 |
| 72.23      | 025 | 102.75     | 025 |
| 92.24      | 037 | 121.00     | 037 |
| 114.91     | 050 | 182.08     | 050 |
| 190.93     | 075 | 234.44     | 075 |
| 288.72     | 100 | 453.23     | 100 |

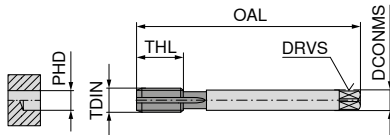
|   |    |    |
|---|----|----|
| P | 12 | 15 |
| M | 7  | 9  |
| K | 12 | 18 |
| N |    | 12 |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

## Through hole / Blind hole – Machine taps, right hand

DuoTap

G



DIN 5156 with reduced shank

| TDIN     | TP    | OAL | DCONMS | DRVS | PHD   | THL | Flutes |
|----------|-------|-----|--------|------|-------|-----|--------|
| mm       | mm    | mm  | mm     | mm   | mm    | mm  |        |
| 1/16-28  | 0.907 | 90  | 6      | 4.9  | 6.80  | 17  | 3      |
| 1/8-28   | 0.907 | 90  | 7      | 5.5  | 8.80  | 18  | 4      |
| 1/4-19   | 1.337 | 100 | 11     | 9.0  | 11.80 | 22  | 4      |
| 3/8-19   | 1.337 | 100 | 12     | 9.0  | 15.25 | 22  | 4      |
| 1/2-14   | 1.814 | 125 | 16     | 12.0 | 19.00 | 25  | 4      |
| 3/4-14   | 1.814 | 140 | 20     | 16.0 | 24.50 | 28  | 4      |
| 1-11     | 2.309 | 160 | 25     | 20.0 | 30.75 | 30  | 5      |
| 1 1/8-11 | 2.309 | 170 | 28     | 22.0 | 35.50 | 30  | 5      |
| 1 1/4-11 | 2.309 | 170 | 32     | 24.0 | 39.50 | 30  | 6      |
| 1 3/8-11 | 2.309 | 180 | 36     | 29.0 | 41.75 | 32  | 6      |
| 1 1/2-11 | 2.309 | 190 | 36     | 29.0 | 45.25 | 32  | 6      |
| 1 3/4-11 | 2.309 | 190 | 40     | 32.0 | 51.00 | 32  | 6      |

|   |    |    |
|---|----|----|
| P | 12 | 6  |
| M |    |    |
| K | 12 | 16 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

ST

ISO 228 X

HR

ISO 228 X

nitr.

HSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xD

HSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xD

| 22 347 ... | 22 339 ... |
|------------|------------|
| £          | £          |
| U0         | U0         |
| 72.23      | 006        |
| 67.33      | 012        |
| 82.68      | 025        |
| 100.36     | 037        |
| 137.63     | 050        |
| 210.30     | 075        |
| 322.65     | 100        |
| 459.14     | 112        |
| 531.64     | 125        |
| 651.88     | 137        |
| 719.99     | 150        |
|            | 1,233.70   |
|            | 175        |

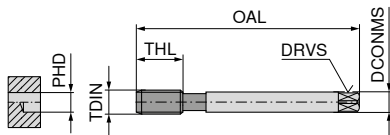
Cutting speed  $v_c$  (m/min.)

## Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

DuoForm

G



DIN 2189 with reduced shank

|          |          |
|----------|----------|
| EC       | EC SN    |
| C<br>2-3 | C<br>2-3 |
| ISO 228  | ISO 228  |
| TiN      | TiN      |

HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 1,5xDHSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

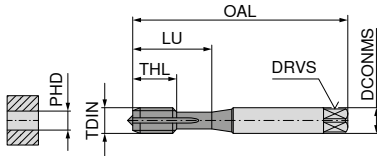
| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |    |    |
|--------|----------|-----------|--------------|------------|-----------|-----------|--------|----|----|
| 1/8-28 | 0.907    | 90        | 7            | 5.5        | 9.25      | 18        |        |    |    |
| 1/8-28 | 0.907    | 90        | 7            | 5.5        | 9.25      | 18        | 5      |    |    |
| 1/4-19 | 1.337    | 100       | 11           | 9.0        | 12.55     | 22        |        |    |    |
| 1/4-19 | 1.337    | 100       | 11           | 9.0        | 12.55     | 22        | 6      |    |    |
| 3/8-19 | 1.337    | 100       | 12           | 9.0        | 16.05     | 22        |        |    |    |
| 3/8-19 | 1.337    | 100       | 12           | 9.0        | 16.05     | 22        | 6      |    |    |
| 1/2-14 | 1.814    | 125       | 16           | 12.0       | 20.10     | 25        |        |    |    |
| 1/2-14 | 1.814    | 125       | 16           | 12.0       | 20.10     | 25        | 6      |    |    |
| P      |          |           |              |            |           |           |        | 18 | 18 |
| M      |          |           |              |            |           |           |        | 10 | 10 |
| K      |          |           |              |            |           |           |        | 10 | 10 |
| N      |          |           |              |            |           |           |        | 22 | 22 |
| S      |          |           |              |            |           |           |        |    |    |
| H      |          |           |              |            |           |           |        |    |    |
| O      |          |           |              |            |           |           |        |    |    |

Cutting speed v<sub>c</sub> (m/min.)

## Through hole – Machine taps, right hand

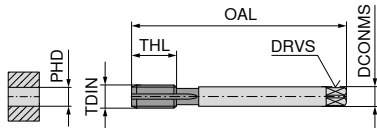
TruTap

UNC



DIN 371 with reinforced shank

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Flutes |
|-----------|-------|-----|--------|------|------|-----|----|--------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm  | mm |        |
| Nr. 2-56  | 0.454 | 45  | 2.8    | 2.1  | 1.85 | 7   | 12 | 2      |
| Nr. 4-40  | 0.635 | 56  | 3.5    | 2.7  | 2.35 | 11  | 18 | 2      |
| Nr. 4-40  | 0.635 | 56  | 3.5    | 2.7  | 2.35 | 11  | 18 | 3      |
| Nr. 6-32  | 0.794 | 56  | 4.0    | 3.0  | 2.85 | 12  | 20 | 3      |
| Nr. 8-32  | 0.794 | 63  | 4.5    | 3.4  | 3.50 | 13  | 21 | 3      |
| Nr. 10-24 | 1.058 | 70  | 6.0    | 4.9  | 3.90 | 15  | 25 | 3      |
| Nr. 12-24 | 1.058 | 80  | 6.0    | 4.9  | 4.50 | 16  | 30 | 3      |
| 1/4-20    | 1.270 | 80  | 7.0    | 5.5  | 5.10 | 17  | 30 | 3      |
| 5/16-18   | 1.411 | 90  | 8.0    | 6.2  | 6.60 | 20  | 35 | 3      |
| 3/8-16    | 1.588 | 100 | 10.0   | 8.0  | 8.00 | 22  | 39 | 3      |



DIN 376 with reduced shank

| TDIN   | TP    | OAL | DCONMS | DRVS | PHD   | THL | Flutes |
|--------|-------|-----|--------|------|-------|-----|--------|
| mm     | mm    | mm  | mm     | mm   | mm    | mm  |        |
| 1/2-13 | 1.954 | 110 | 9      | 7.0  | 10.80 | 25  | 3      |
| 5/8-11 | 2.309 | 110 | 12     | 9.0  | 13.50 | 27  | 3      |
| 3/4-10 | 2.540 | 125 | 14     | 11.0 | 16.50 | 30  | 3      |
| 7/8-9  | 2.822 | 140 | 18     | 14.5 | 19.50 | 32  | 3      |
| 1-8    | 3.175 | 160 | 18     | 14.5 | 22.25 | 36  | 3      |

|   |    |   |    |
|---|----|---|----|
| P | 8  | 7 | 12 |
| M | 6  | 7 | 7  |
| K |    |   | 12 |
| N | 22 |   |    |
| S |    | 5 |    |
| H |    |   |    |
| O |    |   |    |

Cutting speed  $v_c$  (m/min.)

| VA                                      | Ti                                    | UNI                                      |
|-----------------------------------------|---------------------------------------|------------------------------------------|
| B<br>4-5                                | B<br>4-5                              | B<br>4-5                                 |
| 2B                                      | 2BX                                   | 2B                                       |
| nitr.                                   | TiN                                   | nitr. + vap.                             |
|                                         |                                       |                                          |
| HSS-E<br>FHA 0°<br>≤ 900 N/mm²<br>≤ 4xD | HSS-PM<br>FHA 0°<br>≤ 44 HRC<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD |
| 22 250 ...                              | 22 269 ...                            | 22 572 ...                               |
| £<br>U0                                 | £<br>U0                               | £<br>U0                                  |
|                                         |                                       | 105.51 002                               |
|                                         |                                       | 58.11 004                                |
| 50.50 006                               | 131.24 004                            | 49.30 006                                |
| 50.00 008                               | 117.74 008                            | 49.79 008                                |
| 49.79 010                               | 125.79 010                            | 53.85 010                                |
|                                         |                                       | 65.09 012                                |
| 63.18 025                               | 131.24 025                            | 56.80 025                                |
| 64.75 031                               | 141.43 031                            | 67.69 031                                |
| 65.86 037                               | 166.40 037                            | 74.70 037                                |

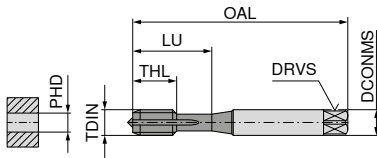
22 573 ...

| TDIN   | TP    | OAL | DCONMS | DRVS | PHD   | THL | Flutes |
|--------|-------|-----|--------|------|-------|-----|--------|
| mm     | mm    | mm  | mm     | mm   | mm    | mm  |        |
| 1/2-13 | 1.954 | 110 | 9      | 7.0  | 10.80 | 25  | 3      |
| 5/8-11 | 2.309 | 110 | 12     | 9.0  | 13.50 | 27  | 3      |
| 3/4-10 | 2.540 | 125 | 14     | 11.0 | 16.50 | 30  | 3      |
| 7/8-9  | 2.822 | 140 | 18     | 14.5 | 19.50 | 32  | 3      |
| 1-8    | 3.175 | 160 | 18     | 14.5 | 22.25 | 36  | 3      |

|   |    |   |    |
|---|----|---|----|
| P | 8  | 7 | 12 |
| M | 6  | 7 | 7  |
| K |    |   | 12 |
| N | 22 |   |    |
| S |    | 5 |    |
| H |    |   |    |
| O |    |   |    |

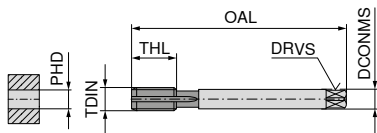
## Through hole – Machine taps, right hand

UNC



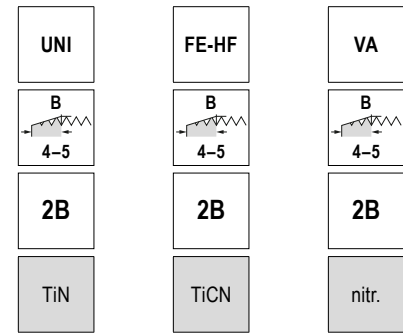
DIN 371 with reinforced shank

| TDIN      | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|-----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| Nr. 4-40  | 0.635    | 56        | 3.5          | 2.7        | 2.30      | 11        | 18       | 2      |
| Nr. 6-32  | 0.794    | 56        | 4.0          | 3.0        | 2.85      | 12        | 20       | 3      |
| Nr. 8-32  | 0.794    | 63        | 4.5          | 3.4        | 3.50      | 13        | 21       | 3      |
| Nr. 10-24 | 1.058    | 70        | 6.0          | 4.9        | 3.90      | 15        | 25       | 3      |
| 1/4-20    | 1.270    | 80        | 7.0          | 5.5        | 5.20      | 17        | 30       | 3      |
| 5/16-18   | 1.411    | 90        | 8.0          | 6.2        | 6.60      | 20        | 35       | 3      |
| 3/8-16    | 1.588    | 100       | 10.0         | 8.0        | 8.00      | 22        | 39       | 3      |



DIN 376 with reduced shank

| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|---------|----------|-----------|--------------|------------|-----------|-----------|--------|
| 7/16-14 | 1.814    | 100       | 8            | 6.2        | 9.40      | 22        | 3      |
| 1/2-13  | 1.954    | 110       | 9            | 7.0        | 10.75     | 25        | 3      |
| 5/8-11  | 2.309    | 110       | 12           | 9.0        | 13.50     | 27        | 3      |
| 3/4-10  | 2.540    | 125       | 14           | 11.0       | 16.50     | 30        | 3      |



|                                          |                                          |                                          |
|------------------------------------------|------------------------------------------|------------------------------------------|
| HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD |
|------------------------------------------|------------------------------------------|------------------------------------------|

| 23 170 ... | 23 370 ... | 23 470 ... |
|------------|------------|------------|
| £<br>T9    | £<br>T9    | £<br>T9    |
| 38.38 004  | 41.15 004  | 37.10 004  |
| 37.10 006  | 39.09 006  | 33.66 006  |
| 37.10 008  | 39.09 008  | 32.94 008  |
| 38.38 010  | 41.33 010  | 37.10 010  |
| 50.35 025  | 57.21 025  | 38.92 025  |
| 55.37 031  | 61.37 031  | 44.36 031  |
| 64.44 037  | 73.99 037  | 51.29 037  |

| 23 171 ... |
|------------|
| £<br>T9    |
| 76.38 043  |
| 83.61 050  |
| 106.45 062 |
| 161.07 075 |

|   |    |    |    |
|---|----|----|----|
| P | 15 | 15 | 8  |
| M | 9  |    | 6  |
| K | 18 | 15 |    |
| N | 12 | 15 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

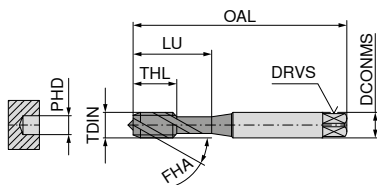
Cutting speed  $v_c$  (m/min.)



## Blind hole – Machine taps, right hand

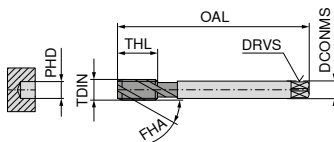
CavTap

UNC



DIN 371 with reinforced shank

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL  | LU | Flutes |
|-----------|-------|-----|--------|------|------|------|----|--------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm   | mm |        |
| Nr. 2-56  | 0.454 | 45  | 2.8    | 2.1  | 1.85 | 4.5  | 12 | 2      |
| Nr. 4-40  | 0.635 | 56  | 3.5    | 2.7  | 2.35 | 6.0  | 18 | 2      |
| Nr. 6-32  | 0.794 | 56  | 4.0    | 3.0  | 2.85 | 7.0  | 20 | 3      |
| Nr. 8-32  | 0.794 | 63  | 4.5    | 3.4  | 3.50 | 8.0  | 21 | 3      |
| Nr. 10-24 | 1.058 | 70  | 6.0    | 4.9  | 3.90 | 10.0 | 25 | 3      |
| 1/4-20    | 1.270 | 80  | 7.0    | 5.5  | 5.10 | 13.0 | 30 | 3      |
| 5/16-18   | 1.411 | 90  | 8.0    | 6.2  | 6.60 | 14.0 | 35 | 3      |
| 3/8-16    | 1.588 | 100 | 10.0   | 8.0  | 8.00 | 16.0 | 39 | 3      |



DIN 376 with reduced shank

| TDIN    | TP    | OAL | DCONMS | DRVS | PHD   | THL | Flutes |
|---------|-------|-----|--------|------|-------|-----|--------|
| mm      | mm    | mm  | mm     | mm   | mm    | mm  |        |
| 7/16-14 | 1.814 | 100 | 8      | 6.2  | 9.40  | 18  | 3      |
| 7/16-14 | 1.814 | 100 | 8      | 6.2  | 9.40  | 18  | 4      |
| 1/2-13  | 1.954 | 110 | 9      | 7.0  | 10.80 | 20  | 3      |
| 1/2-13  | 1.954 | 110 | 9      | 7.0  | 10.80 | 20  | 4      |
| 9/16-12 | 2.117 | 110 | 11     | 9.0  | 12.25 | 20  | 3      |
| 5/8-11  | 2.309 | 110 | 12     | 9.0  | 13.50 | 22  | 3      |
| 5/8-11  | 2.309 | 110 | 12     | 9.0  | 13.50 | 22  | 4      |
| 3/4-10  | 2.540 | 125 | 14     | 11.0 | 16.50 | 25  | 3      |
| 3/4-10  | 2.540 | 125 | 14     | 11.0 | 16.50 | 25  | 4      |
| 7/8-9   | 2.822 | 140 | 18     | 14.5 | 19.50 | 27  | 4      |
| 1-8     | 3.175 | 160 | 18     | 14.5 | 22.25 | 30  | 4      |
| 1-8     | 3.175 | 160 | 18     | 14.5 | 22.25 | 30  | 5      |

|   |    |    |
|---|----|----|
| P | 12 | 8  |
| M | 7  | 6  |
| K | 12 |    |
| N |    | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

UNI

C  
2-3

2B

vap.

HSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

VA

C  
2-3

2B

vap.

HSS-E  
FHA 42°  
≤ 900 N/mm²  
≤ 3xD

22 582 ...

£

U0

87.44

51.67

47.44

48.89

52.02

56.46

59.53

65.86

002

004

006

008

010

025

031

037

22 266 ...

£

U0

50.00

53.34

58.83

59.24

68.07

70.38

006

008

010

025

031

037

22 583 ...

£

U0

125.79

92.44

133.37

121.00

156.44

187.07

253.09

043

050

056

062

075

087

100

22 267 ...

£

U0

148.48

103.55

131.41

163.81

277.27

043

050

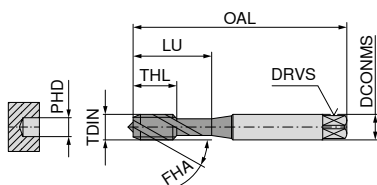
062

075

100

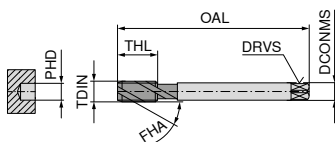
## Blind hole – Machine taps, right hand

UNC



DIN 371 with reinforced shank

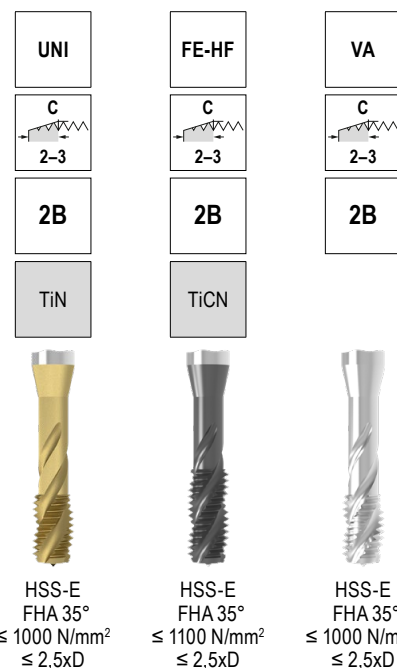
| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Flutes |
|-----------|-------|-----|--------|------|------|-----|----|--------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm  | mm |        |
| Nr. 4-40  | 0.635 | 56  | 3.5    | 2.7  | 2.30 | 6   | 18 | 2      |
| Nr. 4-40  | 0.635 | 56  | 3.5    | 2.7  | 2.30 | 11  | 18 | 2      |
| Nr. 6-32  | 0.794 | 56  | 4.0    | 3.0  | 2.85 | 7   | 20 | 3      |
| Nr. 6-32  | 0.794 | 56  | 4.0    | 3.0  | 2.85 | 12  | 20 | 3      |
| Nr. 8-32  | 0.794 | 63  | 4.5    | 3.4  | 3.50 | 8   | 21 | 3      |
| Nr. 8-32  | 0.794 | 63  | 4.5    | 3.4  | 3.50 | 13  | 21 | 3      |
| Nr. 10-24 | 1.058 | 70  | 6.0    | 4.9  | 3.90 | 10  | 25 | 3      |
| Nr. 10-24 | 1.058 | 70  | 6.0    | 4.9  | 3.90 | 15  | 25 | 3      |
| 1/4-20    | 1.270 | 80  | 7.0    | 5.5  | 5.20 | 13  | 30 | 3      |
| 1/4-20    | 1.270 | 80  | 7.0    | 5.5  | 5.20 | 17  | 30 | 3      |
| 5/16-18   | 1.411 | 90  | 8.0    | 6.2  | 6.60 | 14  | 35 | 3      |
| 5/16-18   | 1.411 | 90  | 8.0    | 6.2  | 6.60 | 20  | 35 | 3      |
| 3/8-16    | 1.588 | 100 | 10.0   | 8.0  | 8.00 | 16  | 39 | 3      |
| 3/8-16    | 1.588 | 100 | 10.0   | 8.0  | 8.00 | 22  | 39 | 3      |



DIN 376 with reduced shank

| TDIN    | TP    | OAL | DCONMS | DRVS | PHD   | THL | Flutes |
|---------|-------|-----|--------|------|-------|-----|--------|
| mm      | mm    | mm  | mm     | mm   | mm    | mm  |        |
| 7/16-14 | 1.814 | 100 | 8      | 6.2  | 9.40  | 18  | 3      |
| 1/2-13  | 1.954 | 110 | 9      | 7.0  | 10.75 | 20  | 3      |
| 5/8-11  | 2.309 | 110 | 12     | 9.0  | 13.50 | 22  | 3      |
| 3/4-10  | 2.540 | 125 | 14     | 11.0 | 16.50 | 25  | 3      |

|   |    |    |    |
|---|----|----|----|
| P | 15 | 15 | 8  |
| M | 9  |    | 6  |
| K | 18 | 15 |    |
| N | 12 | 24 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Cutting speed  $v_c$  (m/min.)

23 172 ...

£ T9

40.72

004

23 372 ...

£ T9

42.72

004

23 472 ...

£ T9

38.92

004

38.19

006

41.33

006

36.59

006

41.15

008

43.72

008

37.82

008

42.40

010

44.36

010

40.21

010

54.81

025

60.88

025

45.01

025

54.81

031

63.46

031

47.59

031

67.14

037

74.04

037

53.12

037

23 173 ...

£ T9

84.86

043

89.87

050

110.32

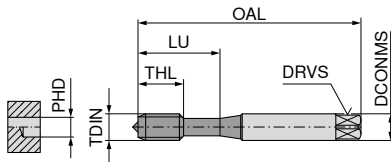
062

163.79

075

## Through hole / Blind hole – Machine thread formers, right hand

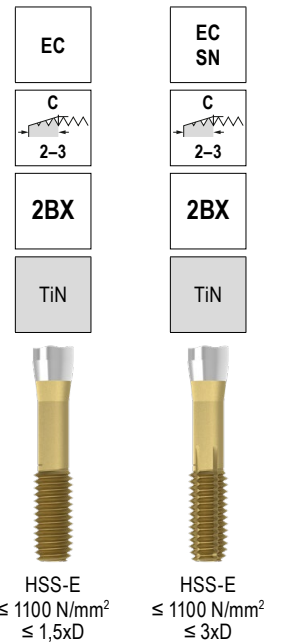
▲ SN = Thread formers with lubrication grooves



DIN 2174 with reinforced shank

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Flutes |
|-----------|-------|-----|--------|------|------|-----|----|--------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm  | mm |        |
| Nr. 4-40  | 0.635 | 56  | 3.5    | 2.7  | 2.55 | 11  | 18 |        |
| Nr. 4-40  | 0.635 | 56  | 3.5    | 2.7  | 2.55 | 11  | 18 | 3      |
| Nr. 6-32  | 0.794 | 56  | 4.0    | 3.0  | 3.15 | 12  | 20 |        |
| Nr. 6-32  | 0.794 | 56  | 4.0    | 3.0  | 3.15 | 12  | 20 | 3      |
| Nr. 8-32  | 0.794 | 63  | 4.5    | 3.4  | 3.80 | 13  | 21 |        |
| Nr. 8-32  | 0.794 | 63  | 4.5    | 3.4  | 3.80 | 13  | 21 | 4      |
| Nr. 10-24 | 1.058 | 70  | 6.0    | 4.9  | 4.35 | 15  | 25 |        |
| Nr. 10-24 | 1.058 | 70  | 6.0    | 4.9  | 4.35 | 15  | 25 | 4      |
| 1/4-20    | 1.270 | 80  | 7.0    | 5.5  | 5.75 | 17  | 30 |        |
| 1/4-20    | 1.270 | 80  | 7.0    | 5.5  | 5.75 | 17  | 30 | 4      |
| 5/16-18   | 1.411 | 90  | 8.0    | 6.2  | 7.30 | 20  | 35 |        |
| 5/16-18   | 1.411 | 90  | 8.0    | 6.2  | 7.30 | 20  | 35 | 5      |
| 3/8-16    | 1.588 | 100 | 10.0   | 8.0  | 8.80 | 22  | 39 |        |
| 3/8-16    | 1.588 | 100 | 10.0   | 8.0  | 8.80 | 22  | 39 | 5      |

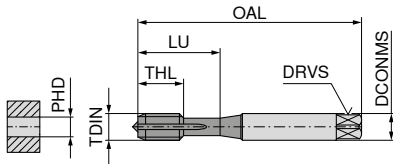
|   |    |    |
|---|----|----|
| P | 18 | 18 |
| M | 10 | 10 |
| K | 10 | 10 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |



| 22 270 ... | 22 271 ... |
|------------|------------|
| £          | £          |
| U0         | U0         |
| 67.72      | 78.62      |
| 004        | 004        |
| 63.46      | 72.86      |
| 006        | 006        |
| 63.83      | 72.86      |
| 008        | 008        |
| 71.21      | 80.64      |
| 010        | 010        |
| 82.48      | 93.36      |
| 025        | 025        |
| 86.36      | 100.30     |
| 031        | 031        |
| 106.24     | 117.32     |
| 037        | 037        |

Cutting speed  $v_c$  (m/min.)

## Through hole – machine taps for wire thread inserts, right hand



DIN 371 with reinforced shank

UNI

B  
4-52B  
modnitr. +  
vap.HSS-E  
FHA 0°  
≤ 1100 N/mm<sup>2</sup>  
≤ 4xD

22 668 ...

| TDIN         | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|--------------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| EG Nr. 4-40  | 0.635    | 63        | 4.5          | 3.4        | 3.1       | 13        | 21       | 3      |
| EG Nr. 6-32  | 0.794    | 70        | 6.0          | 4.9        | 3.8       | 14        | 25       | 3      |
| EG Nr. 8-32  | 0.794    | 80        | 6.0          | 4.9        | 4.4       | 16        | 30       | 3      |
| EG Nr. 10-24 | 1.058    | 80        | 7.0          | 5.5        | 5.2       | 17        | 30       | 3      |

£

U0

75.25

004

78.87

006

77.64

008

83.59

010

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

## Blind hole – machine taps for wire thread inserts, right hand

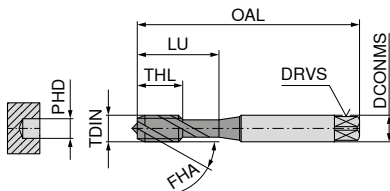
CavTap

EG  
UNC

UNI

E  
1,5-22B  
mod

vap.



DIN 371 with reinforced shank

HSS-E  
FHA 42°  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 672 ...

| TDIN         | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|--------------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| EG Nr. 4-40  | 0.635    | 63        | 4.5          | 3.4        | 3.1       | 7         | 21       | 3      |
| EG Nr. 6-32  | 0.794    | 70        | 6.0          | 4.9        | 3.8       | 8         | 25       | 3      |
| EG Nr. 8-32  | 0.794    | 80        | 6.0          | 4.9        | 4.4       | 8         | 30       | 3      |
| EG Nr. 10-24 | 1.058    | 80        | 7.0          | 5.5        | 5.2       | 10        | 30       | 3      |

£  
U0

|       |     |
|-------|-----|
| 75.85 | 004 |
| 75.25 | 006 |
| 77.64 | 008 |
| 83.59 | 010 |

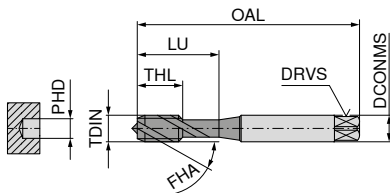
|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

CavTap  
SL

UNJC



DIN 371 with reinforced shank

Ti

C

2-3

3BX

TiCN

HSS-E  
FHA 15°  
≤ 1200 N/mm²  
≤ 2xD

22 166 ...

£

U0

| TDIN      | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|-----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| Nr. 4-40  | 0.635    | 56        | 3.5          | 2.7        | 2.30      | 11        | 18       | 2      |
| Nr. 6-32  | 0.794    | 56        | 4.0          | 3.0        | 2.85      | 12        | 20       | 3      |
| Nr. 8-32  | 0.794    | 63        | 4.5          | 3.4        | 3.50      | 13        | 21       | 3      |
| Nr. 10-24 | 1.058    | 70        | 6.0          | 4.9        | 3.90      | 15        | 25       | 3      |
| 1/4-20    | 1.270    | 80        | 7.0          | 5.5        | 5.25      | 17        | 30       | 3      |
| 3/8-16    | 1.588    | 100       | 10.0         | 8.0        | 8.10      | 22        | 39       | 3      |

102.75 004

104.64 006

101.69 008

109.01 010

139.46 025

168.43 037

|   |    |
|---|----|
| P | 7  |
| M | 7  |
| K |    |
| N | 22 |
| S | 5  |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

## Through hole – Machine taps, right hand

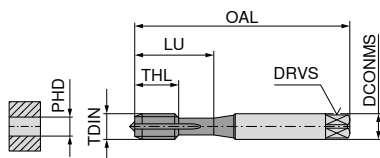
TruTap

UNF

UNI

B  
4-5

2B

nitr. +  
vap.

DIN 371 with reinforced shank

HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

| TDIN      | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|-----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| Nr. 4-48  | 0.529    | 56        | 3.5          | 2.7        | 2.40      | 11        | 18       | 2      |
| Nr. 6-40  | 0.635    | 56        | 4.0          | 3.0        | 2.95      | 12        | 20       | 3      |
| Nr. 8-36  | 0.706    | 63        | 4.5          | 3.4        | 3.50      | 13        | 21       | 3      |
| Nr. 10-32 | 0.794    | 70        | 6.0          | 4.9        | 4.10      | 15        | 25       | 3      |
| 1/4-28    | 0.907    | 80        | 7.0          | 5.5        | 5.50      | 17        | 30       | 3      |
| 5/16-24   | 1.058    | 90        | 8.0          | 6.2        | 6.90      | 17        | 35       | 3      |

22 602 ...

£

U0

68.70

004

61.60

006

60.02

008

61.64

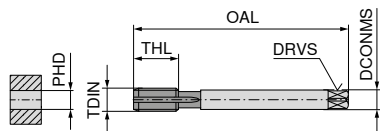
010

70.20

025

84.49

031



DIN 374 with reduced shank

| TDIN     | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|----------|----------|-----------|--------------|------------|-----------|-----------|--------|
| 7/16-20  | 1.270    | 100       | 8            | 6.2        | 9.90      | 22        | 3      |
| 1/2-20   | 1.270    | 100       | 9            | 7.0        | 11.50     | 22        | 3      |
| 9/16-18  | 1.411    | 100       | 11           | 9.0        | 12.90     | 22        | 3      |
| 5/8-18   | 1.411    | 100       | 12           | 9.0        | 14.50     | 22        | 3      |
| 3/4-16   | 1.588    | 110       | 14           | 11.0       | 17.50     | 25        | 4      |
| 7/8-14   | 1.814    | 125       | 18           | 14.5       | 20.50     | 25        | 4      |
| 1-12     | 2.117    | 140       | 18           | 14.5       | 23.25     | 28        | 4      |
| 1 1/8-12 | 2.117    | 150       | 22           | 18.0       | 26.50     | 28        | 4      |
| 1 1/4-12 | 2.117    | 150       | 22           | 18.0       | 29.75     | 28        | 4      |
| 1 3/8-12 | 2.117    | 170       | 28           | 22.0       | 33.00     | 30        | 5      |

22 603 ...

£

U0

94.71

043

91.62

050

137.63

056

126.96

062

158.21

075

206.38

087

269.68

100

697.28

112

778.03

125

858.69

137

P

12

M

7

K

12

N

S

H

O

Cutting speed  $v_c$  (m/min.)

## Through hole – Machine taps, right hand

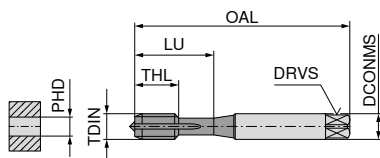
UNF

UNI

B  
4-5

2B

TiN



DIN 371 with reinforced shank



HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 3xD

23 180 ...

| TDIN      | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|-----------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| Nr. 10-32 | 0.794    | 70        | 6            | 4.9        | 4.1       | 15        | 25       | 3      |
| 1/4-28    | 0.907    | 80        | 7            | 5.5        | 5.5       | 17        | 30       | 3      |
| 5/16-24   | 1.058    | 90        | 8            | 6.2        | 6.9       | 17        | 35       | 3      |
| 3/8-24    | 1.058    | 90        | 10           | 8.0        | 8.5       | 18        | 35       | 4      |

£

T9

44.47

010

56.66

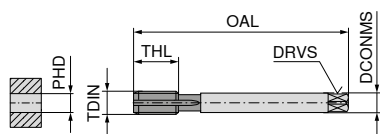
025

62.92

031

67.33

037



DIN 374 with reduced shank

23 181 ...

| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|---------|----------|-----------|--------------|------------|-----------|-----------|--------|
| 7/16-20 | 1.270    | 100       | 8            | 6.2        | 9.9       | 22        | 3      |
| 1/2-20  | 1.270    | 100       | 9            | 7.0        | 11.5      | 22        | 3      |
| 9/16-18 | 1.411    | 100       | 11           | 9.0        | 12.9      | 22        | 3      |
| 5/8-18  | 1.411    | 100       | 12           | 9.0        | 14.5      | 22        | 3      |
| 3/4-16  | 1.588    | 110       | 14           | 11.0       | 17.5      | 25        | 4      |

£

T9

82.68

043

83.61

050

116.06

056

105.32

062

163.07

075

P

15

M

9

K

18

N

12

S

H

O

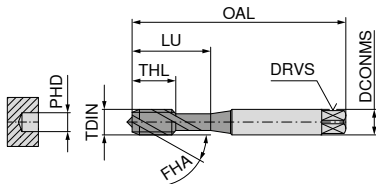
Cutting speed  $v_c$  (m/min.)



## Blind hole – Machine taps, right hand

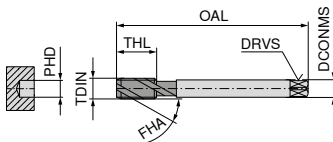
CavTap

UNF



DIN 371 with reinforced shank

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL  | LU | Flutes |
|-----------|-------|-----|--------|------|------|------|----|--------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm   | mm |        |
| Nr. 2-64  | 0.397 | 45  | 2.8    | 2.1  | 1.85 | 4.5  | 12 | 2      |
| Nr. 4-48  | 0.529 | 56  | 3.5    | 2.7  | 2.40 | 6.0  | 18 | 2      |
| Nr. 6-40  | 0.635 | 56  | 4.0    | 3.0  | 2.95 | 7.0  | 20 | 3      |
| Nr. 6-40  | 0.635 | 56  | 4.0    | 3.0  | 3.00 | 7.0  | 20 | 3      |
| Nr. 8-36  | 0.706 | 63  | 4.5    | 3.4  | 3.50 | 8.0  | 21 | 3      |
| Nr. 10-32 | 0.794 | 70  | 6.0    | 4.9  | 4.10 | 10.0 | 25 | 3      |
| Nr. 10-32 | 0.794 | 70  | 6.0    | 4.9  | 4.15 | 10.0 | 25 | 3      |
| 1/4-28    | 0.907 | 80  | 7.0    | 5.5  | 5.50 | 10.0 | 30 | 3      |
| 1/4-28    | 0.907 | 80  | 7.0    | 5.5  | 5.55 | 10.0 | 30 | 3      |
| 5/16-24   | 1.058 | 90  | 8.0    | 6.2  | 6.90 | 10.0 | 35 | 3      |
| 5/16-24   | 1.058 | 90  | 8.0    | 6.2  | 6.95 | 10.0 | 35 | 3      |
| 3/8-24    | 1.058 | 90  | 10.0   | 8.0  | 8.50 | 10.0 | 35 | 3      |
| 3/8-24    | 1.058 | 90  | 10.0   | 8.0  | 8.55 | 10.0 | 35 | 3      |



DIN 374 with reduced shank

| TDIN     | TP    | OAL | DCONMS | DRVS | PHD   | THL | Flutes |
|----------|-------|-----|--------|------|-------|-----|--------|
| mm       | mm    | mm  | mm     | mm   | mm    | mm  |        |
| 7/16-20  | 1.270 | 100 | 8      | 6.2  | 9.90  | 13  | 3      |
| 7/16-20  | 1.270 | 100 | 8      | 6.2  | 9.95  | 13  | 4      |
| 1/2-20   | 1.270 | 100 | 9      | 7.0  | 11.50 | 13  | 4      |
| 1/2-20   | 1.270 | 100 | 9      | 7.0  | 11.55 | 13  | 5      |
| 9/16-18  | 1.411 | 100 | 11     | 9.0  | 12.90 | 15  | 4      |
| 9/16-18  | 1.411 | 100 | 11     | 9.0  | 12.95 | 15  | 5      |
| 5/8-18   | 1.411 | 100 | 12     | 9.0  | 14.50 | 15  | 4      |
| 5/8-18   | 1.411 | 100 | 12     | 9.0  | 14.55 | 15  | 5      |
| 3/4-16   | 1.588 | 110 | 14     | 11.0 | 17.50 | 17  | 4      |
| 3/4-16   | 1.588 | 110 | 14     | 11.0 | 17.55 | 17  | 5      |
| 7/8-14   | 1.814 | 125 | 18     | 14.5 | 20.50 | 17  | 4      |
| 1-12     | 2.117 | 140 | 18     | 14.5 | 23.25 | 20  | 4      |
| 1-12     | 2.117 | 140 | 18     | 14.5 | 23.30 | 20  | 5      |
| 1 1/8-12 | 2.117 | 150 | 22     | 18.0 | 26.50 | 22  | 4      |
| 1 1/4-12 | 2.117 | 150 | 22     | 18.0 | 29.75 | 22  | 5      |
| 1 3/8-12 | 2.117 | 170 | 28     | 22.0 | 33.00 | 24  | 5      |

|   |    |    |    |
|---|----|----|----|
| P | 8  | 12 | 12 |
| M | 6  | 7  | 7  |
| K |    | 12 | 12 |
| N | 22 |    | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

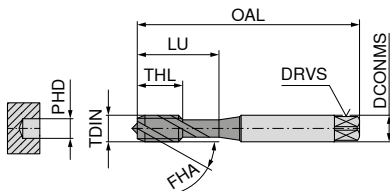
Cutting speed  $v_c$  (m/min.)

| VA                                       | UNI                                       | UNI                                       |
|------------------------------------------|-------------------------------------------|-------------------------------------------|
| E<br>1,5-2                               | C<br>2-3                                  | E<br>1,5-2                                |
| 2B                                       | 2B                                        | 2B<br>+0,05                               |
| vap.                                     | vap.                                      | vap.                                      |
|                                          |                                           |                                           |
| HSS-E<br>FHA 42°<br>≤ 900 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD |
| 22 308 ...                               | 22 606 ...                                | 22 307 ...                                |
| £<br>U0                                  | £<br>U0                                   | £<br>U0                                   |
| 111.39 002                               | 74.52 004                                 |                                           |
| 75.85 004                                | 56.46 006                                 |                                           |
| 74.52 006                                |                                           | 104.40 006                                |
| 92.61 008                                | 56.45 008                                 |                                           |
| 78.20 010                                | 59.53 010                                 | 109.50 010                                |
| 82.27 025                                | 63.27 025                                 | 114.21 025                                |
| 90.97 031                                | 86.90 031                                 | 132.09 031                                |
| 93.90 037                                |                                           | 132.09 037                                |

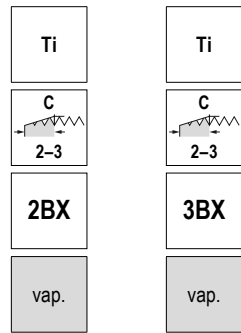
## Blind hole – Machine taps, right hand

CavTap  
SL

UNF



DIN 371 with reinforced shank

HSS-PM  
FHA 30°  
≤ 1400 N/mm²  
≤ 1,5xDHSS-PM  
FHA 30°  
≤ 1400 N/mm²  
≤ 1,5xD

22 302 ...

£

U0

010

125.06

025

136.72

031

155.58

037

160.13

22 303 ...

£

U0

010

125.06

025

136.72

031

145.68

037

160.13

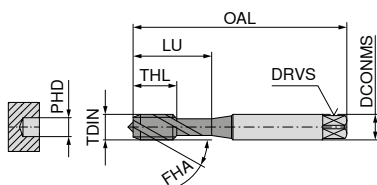
| TDIN      | TP    | OAL | DCONMS | DRVS | PHD | THL | LU | Flutes |
|-----------|-------|-----|--------|------|-----|-----|----|--------|
| Nr. 10-32 | 0.794 | 70  | 6      | 4.9  | 4.1 | 10  | 25 | 3      |
| 1/4-28    | 0.907 | 80  | 7      | 5.5  | 5.5 | 10  | 30 | 3      |
| 5/16-24   | 1.058 | 90  | 8      | 6.2  | 6.9 | 10  | 35 | 3      |
| 3/8-24    | 1.058 | 90  | 10     | 8.0  | 8.5 | 10  | 35 | 3      |

|   |    |    |
|---|----|----|
| P | 5  | 5  |
| M | 5  | 5  |
| K |    |    |
| N | 22 | 22 |
| S | 3  | 3  |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

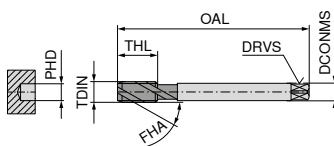
## Blind hole – Machine taps, right hand

UNF



DIN 371 with reinforced shank

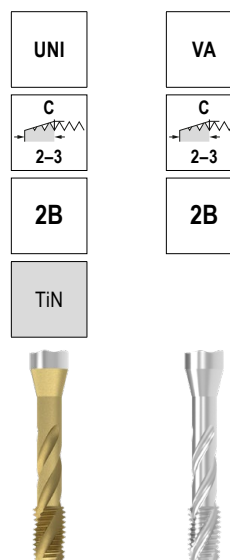
| TDIN      | TP    | OAL | DCONMS | DRVS | PHD | THL | LU | Flutes |
|-----------|-------|-----|--------|------|-----|-----|----|--------|
| mm        | mm    | mm  | mm     | mm   | mm  | mm  | mm |        |
| Nr. 10-32 | 0.794 | 70  | 6      | 4.9  | 4.1 | 10  | 25 | 3      |
| 1/4-28    | 0.907 | 80  | 7      | 5.5  | 5.5 | 10  | 30 | 3      |
| 5/16-24   | 1.058 | 90  | 8      | 6.2  | 6.9 | 10  | 35 | 3      |
| 3/8-24    | 1.058 | 90  | 10     | 8.0  | 8.5 | 10  | 35 | 3      |



DIN 374 with reduced shank

| TDIN    | TP    | OAL | DCONMS | DRVS | PHD  | THL | Flutes |
|---------|-------|-----|--------|------|------|-----|--------|
| mm      | mm    | mm  | mm     | mm   | mm   | mm  |        |
| 7/16-20 | 1.270 | 100 | 8      | 6.2  | 9.9  | 13  | 3      |
| 1/2-20  | 1.270 | 100 | 9      | 7.0  | 11.5 | 13  | 4      |
| 9/16-18 | 1.411 | 100 | 11     | 9.0  | 12.9 | 15  | 4      |
| 5/8-18  | 1.411 | 100 | 12     | 9.0  | 14.5 | 15  | 4      |
| 3/4-16  | 1.588 | 110 | 14     | 11.0 | 17.5 | 17  | 4      |

|   |    |    |
|---|----|----|
| P | 15 | 8  |
| M | 9  | 6  |
| K | 18 |    |
| N | 12 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)HSS-E  
FHA 35°  
≤ 1100 N/mm²  
≤ 2,5xDHSS-E  
FHA 35°  
≤ 1100 N/mm²  
≤ 2,5xD

23 182 ...

£  
T9

46.83

010

58.83

025

63.46

031

70.66

037

23 482 ...

£  
T9

46.30

010

51.29

025

53.56

031

59.24

037

23 183 ...

£  
T9

84.86

043

89.87

050

121.00

056

109.38

062

173.60

075

23 483 ...

£  
T9

73.41

043

74.35

050

103.87

056

89.60

062

123.43

075

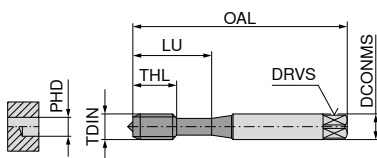
## Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

EC  
SNC  
2-3

2BX

TiN



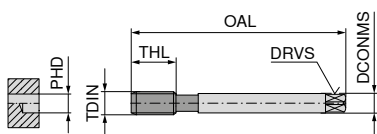
DIN 2174 with reinforced shank

HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 312 ...

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Flutes |
|-----------|-------|-----|--------|------|------|-----|----|--------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm  | mm |        |
| Nr. 4-48  | 0.529 | 56  | 3.5    | 2.7  | 2.62 | 11  | 18 | 3      |
| Nr. 6-40  | 0.635 | 56  | 4.0    | 3.0  | 3.22 | 12  | 20 | 3      |
| Nr. 8-36  | 0.706 | 63  | 4.5    | 3.4  | 3.85 | 13  | 21 | 4      |
| Nr. 10-32 | 0.794 | 70  | 6.0    | 4.9  | 4.45 | 15  | 25 | 4      |
| 1/4-28    | 0.907 | 80  | 7.0    | 5.5  | 5.95 | 17  | 30 | 4      |

| £      |     |
|--------|-----|
| U0     |     |
| 87.28  | 004 |
| 81.36  | 006 |
| 84.12  | 008 |
| 89.87  | 010 |
| 105.35 | 025 |



DIN 2174 with reduced shank

22 313 ...

| TDIN    | TP   | OAL | DCONMS | DRVS | PHD   | THL | Flutes |
|---------|------|-----|--------|------|-------|-----|--------|
| mm      | mm   | mm  | mm     | mm   | mm    | mm  |        |
| 7/16-20 | 1.27 | 100 | 8      | 6.2  | 10.55 | 22  | 6      |
| 1/2-20  | 1.27 | 100 | 9      | 7.0  | 12.15 | 22  | 6      |

| £      |     |
|--------|-----|
| U0     |     |
| 156.99 | 043 |
| 161.43 | 050 |

|   |    |
|---|----|
| P | 18 |
| M | 10 |
| K | 10 |
| N | 22 |
| S |    |
| H |    |
| O |    |

Cutting speed v<sub>c</sub> (m/min.)

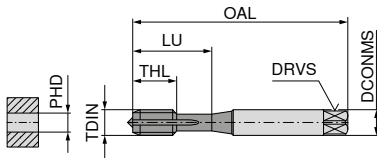
## Through hole – machine taps for wire thread inserts, right hand



UNI



2B

nitr. +  
vap.HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

DIN 371 with reinforced shank

22 676 ...

| TDIN         | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|--------------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| EG Nr. 4-48  | 0.529    | 56        | 4            | 3.0        | 3.0       | 9         | 20       | 3      |
| EG Nr. 6-40  | 0.635    | 70        | 6            | 4.9        | 3.7       | 11        | 25       | 3      |
| EG Nr. 8-36  | 0.706    | 80        | 6            | 4.9        | 4.4       | 13        | 30       | 3      |
| EG Nr. 10-32 | 0.794    | 80        | 6            | 4.9        | 5.1       | 13        | 30       | 3      |
| EG 1/4-28    | 0.907    | 90        | 8            | 6.2        | 6.6       | 17        | 35       | 3      |

£

U0

96.05

004

94.71

006

92.58

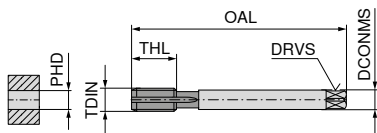
008

98.71

010

105.32

025



DIN 374 with reduced shank

22 677 ...

| TDIN       | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Flutes |
|------------|----------|-----------|--------------|------------|-----------|-----------|--------|
| EG 3/8-24  | 1.058    | 90        | 8            | 6.2        | 9.80      | 18        | 4      |
| EG 7/16-20 | 1.270    | 100       | 9            | 7.0        | 11.50     | 22        | 3      |
| EG 1/2-20  | 1.270    | 100       | 11           | 9.0        | 13.10     | 22        | 3      |
| EG 5/8-18  | 1.411    | 110       | 14           | 11.0       | 16.25     | 25        | 4      |
| EG 3/4-16  | 1.588    | 125       | 16           | 12.0       | 19.50     | 25        | 4      |

£

U0

128.92

037

163.07

043

153.45

050

245.92

062

304.74

075

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

## Blind hole – machine taps for wire thread inserts, right hand

CavTap

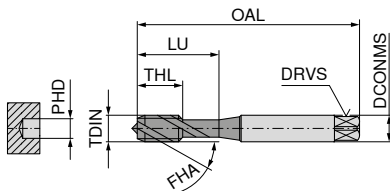
EG  
UNF

UNI

E  
1,5-2

2B

vap.



DIN 371 with reinforced shank

HSS-E  
FHA 42°  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 680 ...

| TDIN         | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Flutes |
|--------------|----------|-----------|--------------|------------|-----------|-----------|----------|--------|
| EG Nr. 4-48  | 0.529    | 56        | 4            | 3.0        | 3.0       | 7         | 20       | 3      |
| EG Nr. 6-40  | 0.635    | 70        | 6            | 4.9        | 3.7       | 8         | 25       | 3      |
| EG Nr. 8-36  | 0.706    | 80        | 6            | 4.9        | 4.4       | 8         | 30       | 3      |
| EG Nr. 10-32 | 0.794    | 80        | 6            | 4.9        | 5.1       | 8         | 30       | 3      |
| EG 1/4-28    | 0.907    | 90        | 8            | 6.2        | 6.6       | 10        | 35       | 3      |

£

U0

97.23

004

94.47

006

96.83

008

104.40

010

115.14

025

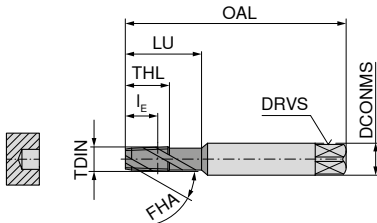
|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

## Blind hole – Machine taps, right hand

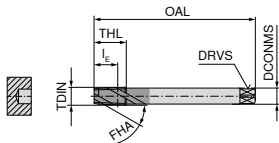
CavTap

NPT



DIN 371 with reinforced shank

| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | LE<br>mm | THL<br>mm | LU<br>mm | Flutes |
|---------|----------|-----------|--------------|------------|----------|-----------|----------|--------|
| 1/16-27 | 0.941    | 90        | 8            | 6.2        | 9.24     | 13.0      | 26.0     | 3      |
| 1/8-27  | 0.941    | 90        | 10           | 8.0        | 9.28     | 13.0      | 26.0     | 3      |
| 1/8-27  | 0.941    | 90        | 10           | 8.0        | 9.28     | 12.0      | 26.0     | 4      |
| 1/4-18  | 1.411    | 100       | 14           | 11.0       | 13.55    | 19.5      | 34.5     | 3      |
| 1/4-18  | 1.411    | 100       | 14           | 11.0       | 13.55    | 18.0      | 34.5     | 4      |



DIN 374 with reduced shank

| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | LE<br>mm | THL<br>mm | Flutes |
|--------|----------|-----------|--------------|------------|----------|-----------|--------|
| 3/8-18 | 1.411    | 110       | 14           | 11         | 13.86    | 18.0      | 5      |
| 3/8-18 | 1.411    | 110       | 14           | 11         | 13.86    | 19.5      | 3      |
| 1/2-14 | 1.814    | 140       | 16           | 12         | 18.11    | 23.0      | 5      |
| 1/2-14 | 1.814    | 140       | 16           | 12         | 18.11    | 25.0      | 5      |
| 3/4-14 | 1.814    | 150       | 20           | 16         | 18.59    | 26.0      | 5      |

|   |    |    |
|---|----|----|
| P | 4  | 5  |
| M | 3  | 4  |
| K |    |    |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Cutting speed  $v_c$  (m/min.)

VA

C  
2-3

vap.

HSS-E  
FHA 35°  
≤ 900 N/mm<sup>2</sup>

22 364 ...

£

U0

125.04

006

144.61

012

168.92

025

VA

C  
2-3

TiN

HSS-E  
FHA 42°  
≤ 1100 N/mm<sup>2</sup>

22 365 ...

£

U0

195.36

012

201.05

025

22 371 ...

£

U0

230.23

037

334.60

050

484.24

075

22 372 ...

£

U0

384.79

037

445.20

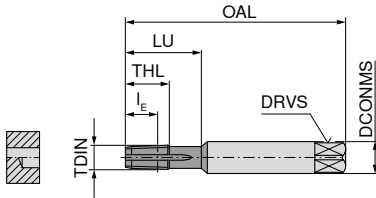
050

## Through hole / Blind hole – Machine taps, right hand

DuoTap

NPT

VG



DIN 371 with reinforced shank

HSS-E  
FHA 0°  
≤ 1100 N/mm²

22 374 ...

| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | LE<br>mm | THL<br>mm | LU<br>mm | Flutes |
|---------|----------|-----------|--------------|------------|----------|-----------|----------|--------|
| 1/16-27 | 0.941    | 90        | 8            | 6.2        | 9.24     | 13.0      | 26.0     | 3      |
| 1/8-27  | 0.941    | 90        | 10           | 8.0        | 9.28     | 13.0      | 26.0     | 3      |
| 1/4-18  | 1.411    | 100       | 14           | 11.0       | 13.55    | 19.5      | 34.5     | 3      |

£

U0

109.38

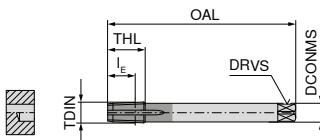
006

140.39

012

145.68

025



DIN 374 with reduced shank

22 375 ...

| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | LE<br>mm | THL<br>mm | Flutes |
|--------|----------|-----------|--------------|------------|----------|-----------|--------|
| 3/8-18 | 1.411    | 110       | 14           | 11         | 13.86    | 19.5      | 3      |
| 1/2-14 | 1.814    | 140       | 16           | 12         | 18.11    | 25.0      | 5      |
| 3/4-14 | 1.814    | 150       | 20           | 16         | 18.59    | 26.0      | 5      |
| 1-11,5 | 2.209    | 170       | 25           | 20         | 22.31    | 30.0      | 5      |

£

U0

183.01

037

247.03

050

320.43

075

446.24

100

|   |    |
|---|----|
| P | 4  |
| M |    |
| K | 6  |
| N | 22 |
| S |    |
| H |    |
| O |    |

Cutting speed  $v_c$  (m/min.)

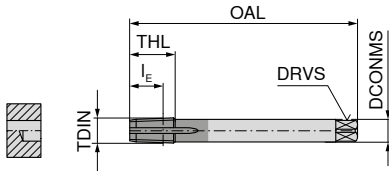


## Through hole / Blind hole – Machine taps, right hand

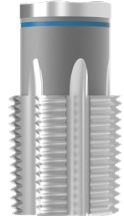
▲ ES = extra short

DuoTap

NPT

ST  
ES

DIN 2181 with reduced shank

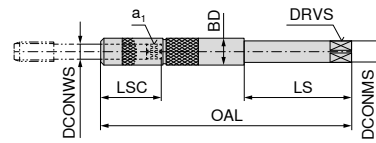
HSS-E  
FHA 0°  
≤ 750 N/mm²

22 361 ...

| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | I <sub>E</sub><br>mm | THL<br>mm | Flutes | £<br>U0 |     |
|---------|----------|-----------|--------------|------------|----------------------|-----------|--------|---------|-----|
| 1/16-27 | 0.941    | 63        | 6            | 4.9        | 9.24                 | 13.0      | 4      | 78.72   | 006 |
| 1/8-27  | 0.941    | 63        | 7            | 5.5        | 9.28                 | 13.0      | 5      | 83.61   | 012 |
| 1/4-18  | 1.411    | 63        | 11           | 9.0        | 13.55                | 19.5      | 5      | 100.36  | 025 |
| 3/8-18  | 1.411    | 70        | 12           | 9.0        | 13.86                | 19.5      | 5      | 125.47  | 037 |
| 1/2-14  | 1.814    | 80        | 16           | 12.0       | 18.11                | 23.0      | 5      | 168.07  | 050 |
| 3/4-14  | 1.814    | 100       | 20           | 16.0       | 18.59                | 26.0      | 6      | 212.32  | 075 |
| 1-11,5  | 2.209    | 110       | 25           | 20.0       | 22.31                | 32.0      | 6      | 313.80  | 100 |
| P       |          |           |              |            |                      |           |        |         | 6   |
| M       |          |           |              |            |                      |           |        |         |     |
| K       |          |           |              |            |                      |           |        |         | 6   |
| N       |          |           |              |            |                      |           |        |         | 22  |
| S       |          |           |              |            |                      |           |        |         |     |
| H       |          |           |              |            |                      |           |        |         |     |
| O       |          |           |              |            |                      |           |        |         |     |

Cutting speed v<sub>c</sub> (m/min.)

## Shank extensions for taps

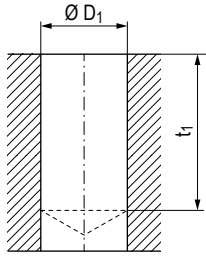


20 450 ...

| DIN 371   | DIN 374 / 376 | DCONWS | a <sub>i</sub> | LSC | BD   | LS | OAL | DRVS | DCONMS | £      |     |
|-----------|---------------|--------|----------------|-----|------|----|-----|------|--------|--------|-----|
|           |               | mm     | mm             | mm  | mm   | mm | mm  | mm   | mm     | U0     |     |
| M3        | M4,5 - M5     | 3.5    | 2.7            | 23  | 7.5  | 60 | 130 | 4.9  | 6      | 392.39 | 020 |
| M3,5      | M5,5          | 4.0    | 3.0            | 23  | 8.4  | 60 | 130 | 4.9  | 6      | 436.92 | 030 |
| M4        | M6            | 4.5    | 3.4            | 23  | 8.4  | 60 | 130 | 4.9  | 6      | 436.92 | 040 |
| M4,5 - M6 | M8            | 6.0    | 4.9            | 26  | 12.1 | 60 | 130 | 5.5  | 7      | 441.92 | 050 |
| M7        | M9 - M10      | 7.0    | 5.5            | 26  | 12.1 | 60 | 130 | 5.5  | 7      | 497.25 | 060 |
| M8        | M11           | 8.0    | 6.2            | 30  | 13.0 | 60 | 130 | 6.2  | 8      | 489.39 | 070 |
| M9        | M12           | 9.0    | 7.0            | 31  | 15.0 | 60 | 130 | 7.0  | 9      | 489.39 | 080 |
| M10       |               | 10.0   | 8.0            | 33  | 15.0 | 60 | 130 | 8.0  | 10     | 502.03 | 090 |
|           | M14           | 11.0   | 9.0            | 36  | 18.0 | 90 | 180 | 9.0  | 11     | 672.49 | 100 |
| (M12)     | M16           | 12.0   | 9.0            | 36  | 18.0 | 90 | 180 | 9.0  | 12     | 672.49 | 110 |

## Core hole diameters for taper threads (taper 1:16)

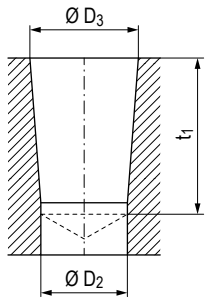
## Pre-drilling of cylindrical holes without reamer



|      |       | NPT              |                     | NPTF             |                     |      |       | Rc               |                     |
|------|-------|------------------|---------------------|------------------|---------------------|------|-------|------------------|---------------------|
| Ø D  | P     | Ø D <sub>1</sub> | t <sub>1</sub> min. | Ø D <sub>1</sub> | t <sub>1</sub> min. | Ø D  | P     | Ø D <sub>1</sub> | t <sub>1</sub> min. |
| inch | Gg/1" | mm               | mm                  | mm               | mm                  | inch | Gg/1" | mm               | mm                  |
| 1/16 | 27    | 6,15             | 12                  | 6,1              | 12                  | 1/16 | 28    | 6,2              | 11,9                |
| 1/8  | 27    | 8,5              | 12                  | 8,45             | 12                  | 1/8  | 28    | 8,2              | 11,9                |
| 1/4  | 18    | 11               | 17,5                | 10,9             | 17,5                | 1/4  | 19    | 10,85            | 16,3                |
| 3/8  | 18    | 14,5             | 17,6                | 14,3             | 17,6                | 3/8  | 19    | 14,5             | 18,1                |
| 1/2  | 14    | 17,85            | 22,9                | 17,6             | 22,9                | 1/2  | 14    | 18               | 24                  |
| 3/4  | 14    | 23,2             | 23                  | 23               | 23                  | 3/4  | 14    | 23,5             | 25,3                |
| 1    | 11½   | 29,5             | 27,4                | 28,75            | 27,4                | 1    | 11    | 29,5             | 30,6                |
| 1¼   | 11½   | 37,8             | 28,1                | 37,5             | 28,1                |      |       |                  |                     |
| 1½   | 11½   | 44               | 28,4                | 43,75            | 28,4                |      |       |                  |                     |
| 2    | 11½   | 56               | 28,4                | 55,75            | 28,4                |      |       |                  |                     |

P = Pitch

## Pre-drilling of cylindrical holes and conical boring with reamer



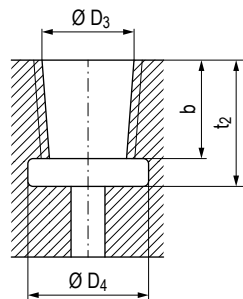
Taper 1:16

|      |       | NPT              |                  |                     | NPTF             |                  |                     |
|------|-------|------------------|------------------|---------------------|------------------|------------------|---------------------|
| Ø D  | P     | Ø D <sub>2</sub> | Ø D <sub>3</sub> | t <sub>1</sub> min. | Ø D <sub>2</sub> | Ø D <sub>3</sub> | t <sub>1</sub> min. |
| inch | Gg/1" | mm               | mm               | mm                  | mm               | mm               | mm                  |
| 1/16 | 27    | 5,95             | 6,39             | 12                  | 5,95             | 6,41             | 12                  |
| 1/8  | 27    | 8,25             | 8,74             | 12                  | 8,25             | 8,76             | 12                  |
| 1/4  | 18    | 10,75            | 11,36            | 17,5                | 10,75            | 11,4             | 17,5                |
| 3/8  | 18    | 14,1             | 14,8             | 17,6                | 14,1             | 14,84            | 17,6                |
| 1/2  | 14    | 17,5             | 18,32            | 22,9                | 17,5             | 18,33            | 22,9                |
| 3/4  | 14    | 22,7             | 23,67            | 23                  | 22,7             | 23,68            | 23                  |
| 1    | 11½   | 28,6             | 29,69            | 27,4                | 28,6             | 29,72            | 27,4                |
| 1¼   | 11½   | 37,3             | 38,45            | 28,1                | 37,3             | 38,48            | 28,1                |
| 1½   | 11½   | 43,4             | 44,52            | 28,4                | 43,4             | 44,5             | 28,4                |
| 2    | 11½   | 55,5             | 56,56            | 28,4                | 55,5             | 56,59            | 28,4                |

|      |       | Rc               |                  |                     |
|------|-------|------------------|------------------|---------------------|
| Ø D  | P     | Ø D <sub>2</sub> | Ø D <sub>3</sub> | t <sub>1</sub> min. |
| inch | Gg/1" | mm               | mm               | mm                  |
| 1/16 | 28    | 6,1              | 6,56             | 11,9                |
| 1/8  | 28    | 8,1              | 8,57             | 11,9                |
| 1/4  | 19    | 10,75            | 11,45            | 17,7                |
| 3/8  | 19    | 14,25            | 14,95            | 18,1                |
| 1/2  | 14    | 17,75            | 18,63            | 24                  |
| 3/4  | 14    | 23               | 24,12            | 25,3                |
| 1    | 11    | 29               | 30,29            | 30,6                |

P = Pitch

## Recommendation for the pre-drilling of blind hole threads



Taper 1:16

|      |       | NPT              |      |                     |                       | NPTF             |      |                     |                       |
|------|-------|------------------|------|---------------------|-----------------------|------------------|------|---------------------|-----------------------|
| Ø D  | P     | Ø D <sub>3</sub> | b    | t <sub>2</sub> min. | Ø D <sub>4</sub> min. | Ø D <sub>3</sub> | b    | t <sub>2</sub> min. | Ø D <sub>4</sub> min. |
| inch | Gg/1" | mm               | mm   | mm                  | mm                    | mm               | mm   | mm                  | mm                    |
| 1/16 | 27    | 6,39             | 7    | 10                  | 7,6                   | 6,41             | 8    | 11                  | 7,4                   |
| 1/8  | 27    | 8,74             | 7    | 10                  | 10                    | 8,76             | 8    | 11                  | 9,8                   |
| 1/4  | 18    | 11,36            | 10,2 | 14,5                | 13,1                  | 11,4             | 11,6 | 15,5                | 12,9                  |
| 3/8  | 18    | 14,8             | 10,6 | 15                  | 16,5                  | 14,84            | 12   | 16                  | 16,3                  |
| 1/2  | 14    | 18,32            | 13,8 | 19                  | 20,5                  | 18,33            | 15,6 | 20,5                | 20,3                  |
| 3/4  | 14    | 23,67            | 14,2 | 20                  | 25,8                  | 23,68            | 16   | 21,5                | 25,6                  |
| 1    | 11½   | 29,69            | 17   | 24                  | 32,2                  | 29,72            | 19,2 | 26                  | 32                    |
| 1¼   | 11½   | 38,45            | 17,5 | 24,5                | 41                    | 38,48            | 19,7 | 26,5                | 40,8                  |
| 1½   | 11½   | 44,52            | 17,5 | 24,5                | 47,2                  | 44,5             | 19,7 | 26,5                | 47                    |
| 2    | 11½   | 56,56            | 18   | 25                  | 59,2                  | 56,59            | 20,2 | 27                  | 59                    |

|      |       | Rc               |      |                     |                       |
|------|-------|------------------|------|---------------------|-----------------------|
| Ø D  | P     | Ø D <sub>3</sub> | b    | t <sub>2</sub> min. | Ø D <sub>4</sub> min. |
| inch | Gg/1" | mm               | mm   | mm                  | mm                    |
| 1/16 | 28    | 6,56             | 5,6  | 9,5                 | 7,6                   |
| 1/8  | 28    | 8,57             | 5,6  | 9,5                 | 9,6                   |
| 1/4  | 19    | 11,45            | 8,4  | 14                  | 13                    |
| 3/8  | 19    | 14,95            | 8,8  | 14,4                | 16,5                  |
| 1/2  | 14    | 18,63            | 11,4 | 19                  | 20,6                  |
| 3/4  | 14    | 24,12            | 12,7 | 20,3                | 26                    |
| 1    | 11    | 30,29            | 14,5 | 24,3                | 32,8                  |

P = Pitch

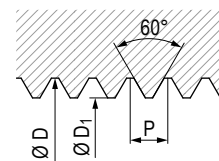
# Tapped hole pilot diameter

M

ISO metric coarse threads 6H to DIN 13 and DIN ISO 965-1 ( M1-M1,4 = 5H )

| Thread nominal Ø |      | Ø D <sub>1</sub> |       | Core hole |
|------------------|------|------------------|-------|-----------|
| D                | P    | min.             | max.  |           |
| M1               | 0,25 | 0,729            | 0,785 | 0,75      |
| M1,1             | 0,25 | 0,829            | 0,885 | 0,85      |
| M1,2             | 0,25 | 0,929            | 0,985 | 0,95      |
| M1,4             | 0,3  | 1,075            | 1,142 | 1,1       |
| M1,6             | 0,35 | 1,221            | 1,321 | 1,25      |
| M1,8             | 0,35 | 1,421            | 1,521 | 1,45      |
| M2               | 0,4  | 1,567            | 1,679 | 1,6       |
| M2,2             | 0,45 | 1,713            | 1,838 | 1,75      |
| M2,5             | 0,45 | 2,013            | 2,138 | 2,05      |
| M3               | 0,5  | 2,459            | 2,599 | 2,5       |
| M3,5             | 0,6  | 2,850            | 3,01  | 2,9       |
| M4               | 0,7  | 3,242            | 3,422 | 3,3       |
| M4,5             | 0,75 | 3,688            | 3,878 | 3,7       |
| M5               | 0,8  | 4,134            | 4,334 | 4,2       |
| M6               | 1    | 4,917            | 5,153 | 5         |
| M7               | 1    | 5,917            | 6,153 | 6         |
| M8               | 1,25 | 6,647            | 6,912 | 6,8       |
| M9               | 1,25 | 7,647            | 7,912 | 7,8       |
| M10              | 1,5  | 8,376            | 8,676 | 8,5       |
| M11              | 1,5  | 9,376            | 9,676 | 9,5       |

| Thread nominal Ø |      | Ø D <sub>1</sub> |        | Core hole |
|------------------|------|------------------|--------|-----------|
| D                | P    | min.             | max.   |           |
| M12              | 1,75 | 10,106           | 10,441 | 10,2      |
| M14              | 2    | 11,835           | 12,210 | 12        |
| M16              | 2    | 13,835           | 14,210 | 14        |
| M18              | 2,5  | 15,294           | 15,744 | 15,5      |
| M20              | 2,5  | 17,294           | 17,744 | 17,5      |
| M22              | 2,5  | 19,294           | 19,744 | 19,5      |
| M24              | 3    | 20,752           | 21,252 | 21        |
| M27              | 3    | 23,752           | 24,252 | 24        |
| M30              | 3,5  | 26,211           | 26,771 | 26,5      |
| M33              | 3,5  | 29,211           | 29,771 | 29,5      |
| M36              | 4    | 31,67            | 32,270 | 32        |
| M39              | 4    | 34,67            | 35,270 | 35        |
| M42              | 4,5  | 37,129           | 37,799 | 37,5      |
| M45              | 4,5  | 40,129           | 40,799 | 40,5      |
| M48              | 5    | 42,587           | 43,297 | 43        |
| M52              | 5    | 46,587           | 47,297 | 47        |
| M56              | 5,5  | 50,046           | 50,796 | 50,5      |
| M60              | 5,5  | 54,046           | 54,796 | 54,5      |
| M64              | 6    | 57,505           | 58,305 | 58        |
| M68              | 6    | 61,505           | 62,305 | 62        |



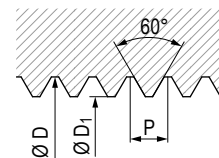
6

MF

ISO metric fine threads 6H to DIN 13 and DIN ISO 965-1

| Thread nominal Ø |   |      | Ø D <sub>1</sub> |        | Core hole |
|------------------|---|------|------------------|--------|-----------|
| D                | x | P    | min.             | max.   |           |
| M2               | x | 0,25 | 1,729            | 1,774  | 1,75      |
| M2,2             | x | 0,25 | 1,929            | 1,974  | 1,95      |
| M2,5             | x | 0,35 | 2,121            | 2,221  | 2,15      |
| M3               | x | 0,35 | 2,621            | 2,721  | 2,65      |
| M3,5             | x | 0,35 | 3,121            | 3,221  | 3,15      |
| M4               | x | 0,35 | 3,621            | 3,721  | 3,65      |
| M4               | x | 0,5  | 3,459            | 3,599  | 3,5       |
| M4,5             | x | 0,5  | 3,959            | 4,099  | 4         |
| M5               | x | 0,5  | 4,459            | 4,599  | 4,5       |
| M6               | x | 0,5  | 5,459            | 5,599  | 5,5       |
| M6               | x | 0,75 | 5,188            | 5,378  | 5,2       |
| M8               | x | 0,75 | 7,188            | 7,378  | 7,2       |
| M8               | x | 1,0  | 6,917            | 7,153  | 7         |
| M10              | x | 0,75 | 9,188            | 9,378  | 9,2       |
| M10              | x | 1,0  | 8,917            | 9,153  | 9         |
| M10              | x | 1,25 | 8,647            | 8,912  | 8,8       |
| M12              | x | 1,0  | 10,917           | 11,153 | 11        |
| M12              | x | 1,5  | 10,376           | 10,676 | 10,5      |
| M14              | x | 1,25 | 12,647           | 12,912 | 12,8      |
| M16              | x | 1,0  | 14,917           | 15,153 | 15        |
| M16              | x | 1,5  | 14,376           | 14,676 | 14,5      |

| Thread nominal Ø |   |     | Ø D <sub>1</sub> |         | Core hole |
|------------------|---|-----|------------------|---------|-----------|
| D                | x | P   | min.             | max.    |           |
| M20              | x | 1,0 | 18,917           | 19,153  | 19        |
| M20              | x | 1,5 | 18,376           | 18,676  | 18,5      |
| M20              | x | 2,0 | 17,835           | 18,210  | 18        |
| M24              | x | 1,5 | 22,376           | 22,676  | 22,5      |
| M30              | x | 2,0 | 27,835           | 28,210  | 28        |
| M36              | x | 1,5 | 34,376           | 34,676  | 34,5      |
| M36              | x | 3,0 | 32,752           | 33,252  | 33        |
| M42              | x | 2,0 | 39,835           | 40,210  | 40        |
| M48              | x | 1,5 | 46,376           | 46,676  | 46,5      |
| M48              | x | 3,0 | 44,752           | 45,252  | 45        |
| M48              | x | 4,0 | 43,67            | 44,270  | 44        |
| M56              | x | 1,5 | 54,376           | 54,676  | 54,5      |
| M56              | x | 2,0 | 53,835           | 54,210  | 54        |
| M56              | x | 3,0 | 52,752           | 53,252  | 53        |
| M56              | x | 4,0 | 51,670           | 52,270  | 52        |
| M64              | x | 3,0 | 60,752           | 61,252  | 61        |
| M64              | x | 4,0 | 59,670           | 60,270  | 60        |
| M72              | x | 4,0 | 67,670           | 68,270  | 68        |
| M80              | x | 6,0 | 73,505           | 74,305  | 74        |
| M95              | x | 6,0 | 88,505           | 89,305  | 89        |
| M110             | x | 6,0 | 103,505          | 104,305 | 104       |



Dimensions in mm; P=Pitch

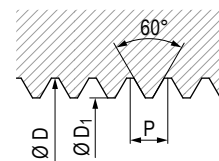
## Thread former pilot hole diameter

M

ISO metric coarse threads 6H to DIN 13 and DIN ISO 965-1 ( M1-M1,4 = 5H )

| Thread nominal Ø |      | Ø D <sub>1</sub> |      | Core hole |
|------------------|------|------------------|------|-----------|
| D                | P    | min.             | max. |           |
| M1               | 0,25 | 0,89             |      | 0,9       |
| M1,2             | 0,25 | 1,09             |      | 1,1       |
| M1,4             | 0,3  | 1,26             |      | 1,28      |
| M1,6             | 0,35 | 1,45             |      | 1,47      |
| M1,8             | 0,35 | 1,65             |      | 1,67      |
| M2               | 0,4  | 1,83             | 1,86 | 1,85      |
| M2,2             | 0,45 | 2                | 2,04 | 2,03      |
| M2,5             | 0,45 | 2,3              | 2,34 | 2,33      |
| M3               | 0,5  | 2,77             | 2,82 | 2,8       |
| M3,5             | 0,6  | 3,23             | 3,28 | 3,25      |
| M4               | 0,7  | 3,68             | 3,73 | 3,7       |
| M4,5             | 0,75 | 4,15             | 4,21 | 4,2       |
| M5               | 0,8  | 4,63             | 4,68 | 4,65      |

| Thread nominal Ø |      | Ø D <sub>1</sub> |       | Core hole |
|------------------|------|------------------|-------|-----------|
| D                | P    | min.             | max.  |           |
| M6               | 1    | 5,51             | 5,59  | 5,6       |
| M7               | 1    | 6,51             | 6,59  | 6,6       |
| M8               | 1,25 | 7,39             | 7,48  | 7,45      |
| M9               | 1,25 | 8,39             | 8,48  | 8,45      |
| M10              | 1,5  | 9,25             | 9,35  | 9,35      |
| M11              | 1,5  | 10,25            | 10,35 | 10,35     |
| M12              | 1,75 | 11,12            | 11,25 | 11,25     |
| M14              | 2    | 13               | 13,15 | 13,1      |
| M16              | 2    | 15               | 15,15 | 15,1      |
| M18              | 2,5  | 16,72            | 16,9  | 16,85     |
| M20              | 2,5  | 18,72            | 18,9  | 18,85     |
| M22              | 2,5  | 20,72            | 20,9  | 20,85     |
| M24              | 3    | 22,46            | 22,7  | 22,65     |

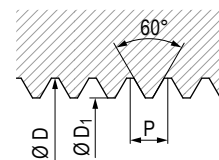


MF

ISO metric fine threads 6H to DIN 13 and DIN ISO 965-1

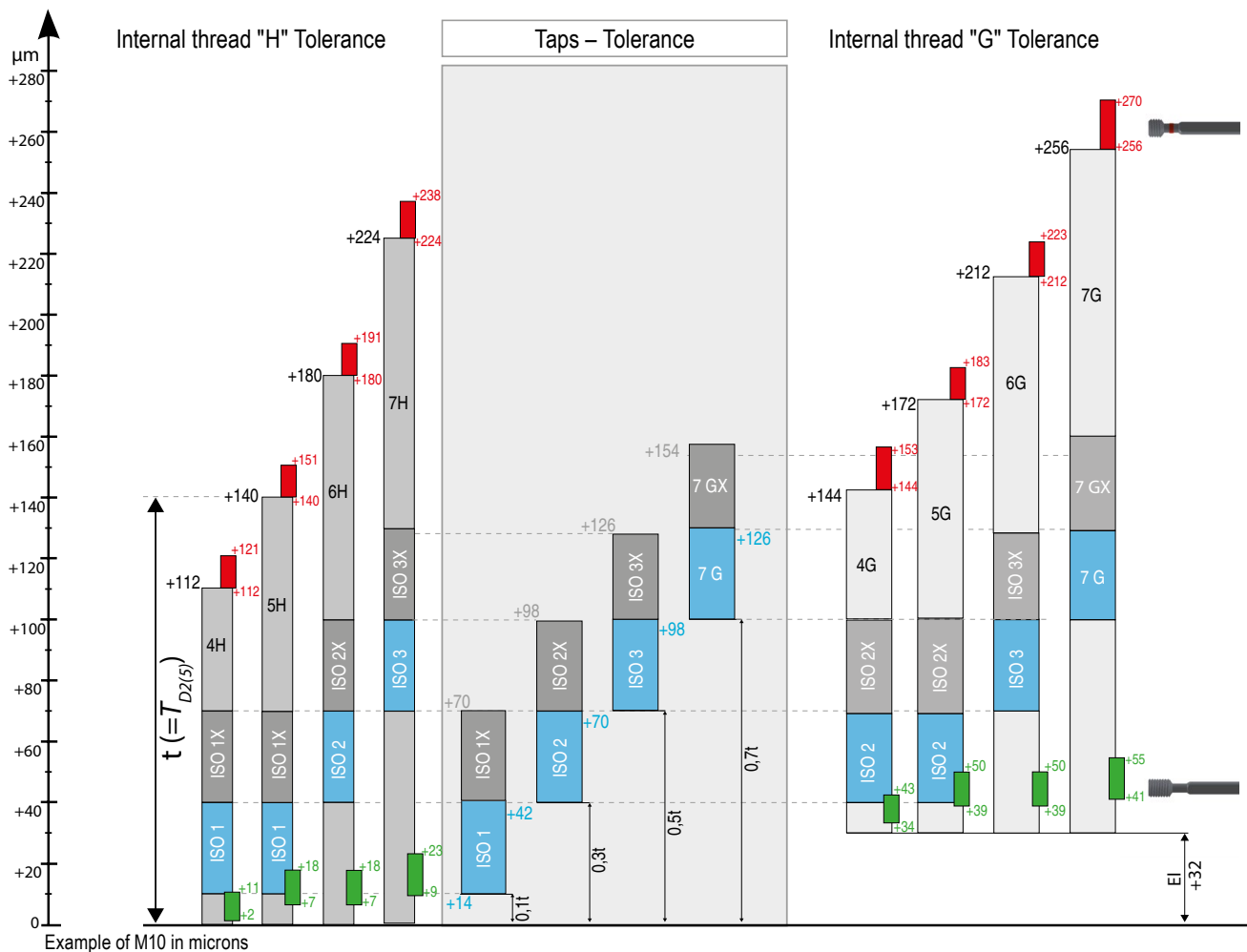
| Thread nominal Ø |   |      | Ø D <sub>1</sub> |       | Core hole |
|------------------|---|------|------------------|-------|-----------|
| D                | x | P    | min.             | max.  |           |
| M2               | x | 0,25 | 1,89             |       | 1,9       |
| M2,2             | x | 0,25 | 2,09             |       | 2,1       |
| M2,5             | x | 0,25 | 2,39             |       | 2,4       |
| M2,5             | x | 0,35 | 2,35             |       | 2,37      |
| M3               | x | 0,25 | 2,89             |       | 2,9       |
| M3               | x | 0,35 | 2,85             |       | 2,88      |
| M3,5             | x | 0,35 | 3,35             |       | 3,38      |
| M3,5             | x | 0,5  | 3,27             | 3,32  | 3,3       |
| M4               | x | 0,35 | 3,85             |       | 3,88      |
| M4               | x | 0,5  | 3,77             | 3,82  | 3,8       |
| M4,5             | x | 0,5  | 4,27             | 4,32  | 4,3       |
| M5               | x | 0,5  | 4,77             | 4,82  | 4,8       |
| M5               | x | 0,75 | 4,65             | 4,71  | 4,7       |
| M5,5             | x | 0,5  | 5,27             | 5,32  | 5,3       |
| M6               | x | 0,5  | 5,78             | 5,83  | 5,8       |
| M6               | x | 0,75 | 5,65             | 5,71  | 5,7       |
| M7               | x | 0,5  | 6,78             | 6,83  | 6,8       |
| M7               | x | 0,75 | 6,65             | 6,71  | 6,7       |
| M8               | x | 0,5  | 7,78             | 7,83  | 7,8       |
| M8               | x | 0,75 | 7,65             | 7,71  | 7,7       |
| M8               | x | 1,0  | 7,51             | 7,59  | 7,6       |
| M9               | x | 0,5  | 8,78             | 8,83  | 8,8       |
| M9               | x | 0,75 | 8,65             | 8,71  | 8,7       |
| M9               | x | 1,0  | 8,51             | 8,59  | 8,6       |
| M10              | x | 0,5  | 9,78             | 9,83  | 9,8       |
| M10              | x | 0,75 | 9,65             | 9,71  | 9,7       |
| M10              | x | 1,0  | 9,51             | 9,59  | 9,6       |
| M10              | x | 1,25 | 9,39             | 9,48  | 9,45      |
| M11              | x | 0,75 | 10,65            | 10,71 | 10,7      |
| M11              | x | 1,0  | 10,51            | 10,59 | 10,6      |
| M12              | x | 0,75 | 11,66            | 11,72 | 11,7      |

| Thread nominal Ø |   |      | Ø D <sub>1</sub> |       | Core hole |
|------------------|---|------|------------------|-------|-----------|
| D                | x | P    | min.             | max.  |           |
| M12              | x | 1,0  | 11,52            | 11,6  | 11,6      |
| M12              | x | 1,25 | 11,4             | 11,49 | 11,45     |
| M12              | x | 1,5  | 11,26            | 11,36 | 11,35     |
| M13              | x | 0,75 | 12,66            | 12,72 | 12,7      |
| M13              | x | 1,0  | 12,52            | 12,6  | 12,6      |
| M13              | x | 1,5  | 12,26            | 12,36 | 12,35     |
| M14              | x | 0,75 | 13,66            | 13,72 | 13,7      |
| M14              | x | 1,0  | 13,52            | 13,6  | 13,6      |
| M14              | x | 1,25 | 13,4             | 13,49 | 13,45     |
| M14              | x | 1,5  | 13,26            | 13,36 | 13,35     |
| M15              | x | 0,75 | 14,66            | 14,72 | 14,7      |
| M15              | x | 1,0  | 14,52            | 14,6  | 14,6      |
| M15              | x | 1,5  | 14,26            | 14,36 | 14,35     |
| M16              | x | 0,75 | 15,66            | 15,72 | 15,7      |
| M16              | x | 1,0  | 15,52            | 15,6  | 15,6      |
| M16              | x | 1,5  | 15,26            | 15,36 | 15,35     |
| M18              | x | 1,0  | 17,52            | 17,6  | 17,6      |
| M18              | x | 1,5  | 17,26            | 17,36 | 17,35     |
| M18              | x | 2,0  | 17               | 17,15 | 17,1      |
| M20              | x | 1,0  | 19,52            | 19,6  | 19,6      |
| M20              | x | 1,5  | 19,26            | 19,36 | 19,35     |
| M20              | x | 2,0  | 19               | 19,15 | 19,1      |
| M22              | x | 1,5  | 21,26            | 21,36 | 21,35     |
| M22              | x | 2,0  | 21               | 21,15 | 21,1      |
| M24              | x | 1,5  | 23,26            | 23,38 | 23,35     |
| M24              | x | 2,0  | 23,01            | 23,16 | 23,1      |
| M25              | x | 1,5  | 24,26            | 24,38 | 24,35     |
| M26              | x | 1,5  | 25,26            | 25,38 | 25,35     |
| M27              | x | 2,0  | 26,01            | 26,16 | 26,1      |
| M28              | x | 1,5  | 27,26            | 27,38 | 27,35     |
| M30              | x | 1,5  | 29,26            | 29,38 | 29,35     |
| M30              | x | 2,0  | 29,01            | 29,16 | 29,1      |



Dimensions in mm; P=Pitch

## Thread tolerances and recommended manufacturing tolerances

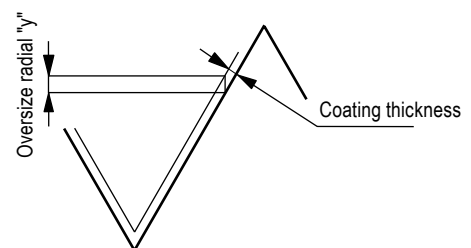


6

Workpieces to be plated require oversize taps.  
The interference depends on the coating thickness and the flank angle.

at

|                 |                                      |
|-----------------|--------------------------------------|
| 60° Flank angle | Oversize = 4 x coating thickness     |
| 55° Flank angle | Oversize = 4.331 x coating thickness |
| 30° Flank angle | Oversize = 7.727 x coating thickness |



| Application class of the tap<br>Designation according to |      | Tolerance class of the internal thread to be cut |      |      |    |    |   |
|----------------------------------------------------------|------|--------------------------------------------------|------|------|----|----|---|
| DIN                                                      | ISO  |                                                  |      |      |    |    |   |
| 4H                                                       | ISO1 | 4H                                               | 5H   | –    | –  | –  | – |
| 6H                                                       | ISO2 | 4G                                               | 5G   | 6H   | –  | –  | – |
| 6G                                                       | ISO3 | –                                                | (4E) | 6G   | 7H | 8H | – |
| 7G                                                       | –    | –                                                | –    | (6E) | 7G | 8G | – |

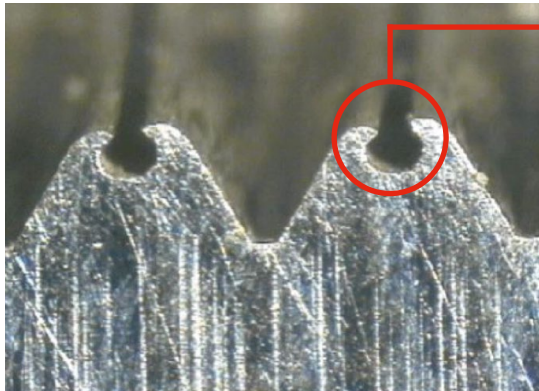


For special applications, e.g. abrasive cast iron materials or plastics other dimensions have to be chosen which are determined on previous experience. In such cases an „X“ is added to the short designation of the tolerance, e.g. ISO 2X, however the tolerance zone assignment may be limited (6HX for tolerance zone 6H and 5G). In addition it should be taken into account that the dimensions of the internal thread do not only depend on the dimensions of the tap but on the material to be machined and all production conditions.

For first taps and intermediate taps no thread dimensions are determined.

## Thread formers

DuoForm thread forming taps for cold-formable materials up to 1400 N/mm<sup>2</sup> or at least 5 % elongation. The thread is produced by plastic deformation. The molded thread has very high strength.



### » Important

Prior to forming a thread, you should ensure that a molded thread is acceptable. In certain sectors, the forming of a thread is **not** permitted. Dirt or bacteria can settle in the formed crown.

## Incremental pressure forming



← Workpiece

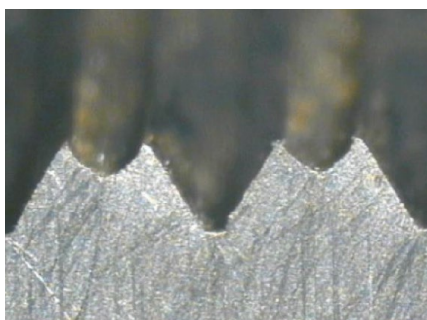
← Thread formers



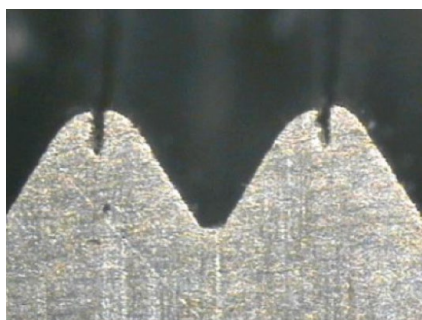
The thread profile is pressed gradually into the material via the start (leading edge) of the tap.

## Properties

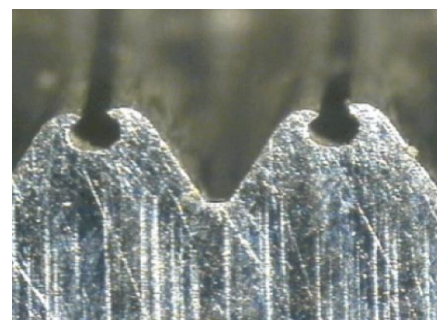
- ▲ One type can be used in different materials
- ▲ For through and blind holes
- ▲ Very good thread surface quality
- ▲ High static and dynamic strength thread
- ▲ Secure machining of deep and counterbored threads
- ▲ Short machining times
- ▲ No chip problems
- ▲ No swarf
- ▲ High process security
- ▲ HSS-E and HSS-PM taps for materials up to 33 HRC with a minimum elongation of 5 %



Underformed – core hole too large



Overformed – core hole too small



Perfect form – Core hole correct

## Troubleshooting

### Poor tool life

#### Cause

- ▲ Overload fractures of the cutting edge on the lead
- ▲ Hardness or tool material not suitable for the application
- ▲ Core hole too small, or work hardened
- ▲ Insufficient lubrication or incorrect application parameters

#### Remedy

- ▲ A longer lead or more flutes for the same lead length, giving a greater number of cutting teeth
- ▲ In reground tools the hardness can be reduced, apply correct parameters for regrinding
- ▲ Increase frequency of changes or regrinding of the drill
- ▲ Use the correct operating parameters for drilling
- ▲ Select the correct lubricant and ensure adequate supply

### Axial thread error

#### Cause

- ▲ Selected geometry is not suitable
- ▲ Spindle speed is wrong compared with feed (synchronisation error)
- ▲ Blind hole taps are used with high feed pressure
- ▲ Through hole taps are used with low feed pressure

#### Remedy

- ▲ Check programming and pitch control or machine synchronisation
- ▲ Use tapping chuck with length compensation
- ▲ Increase retraction feed pressure
- ▲ Increase feed pressure

### Oversize thread

#### Cause

- ▲ Thread tolerances of tool and thread gauge do not match
- ▲ Burred tool edges after regrinding
- ▲ Cold pressure welding

#### Remedy

- ▲ Check the correct tolerances for tool and thread gauge
- ▲ Carefully deburr
- ▲ Use appropriate (positive) geometry
- ▲ Reduce cutting speed
- ▲ Use different surface treatment or coating
- ▲ Use tapping chuck with length compensation
- ▲ Use appropriate lubricant

### Broken tool

#### Cause

- ▲ Tool is worn
- ▲ Tool has hit the bottom of the hole
- ▲ Weld deposits
- ▲ Core hole too small
- ▲ Chip trapping
- ▲ Incorrect cutting speed
- ▲ Chip trapping in the flute
- ▲ Insufficient cooling / lubrication

#### Remedy

- ▲ Employ set taps
- ▲ Use a tool with lower helix
- ▲ Use tools with a shorter / longer lead
- ▲ Check the pre-drilling depth and the thread depth
- ▲ Drill core hole deeper
- ▲ Correct cutting speed
- ▲ Use a different coating or surface treatment
- ▲ Use tool holder with length compensation
- ▲ Use suitable lubricant
- ▲ Use correct core hole
- ▲ Change geometry and / or flute type
- ▲ Note chip shape and chip formation



## Coatings

vap.

- ▲ Vaporised
- ▲ Vaporisation (vapour-deposition) prevents cold welds from forming on the tool and increases the surface hardness and thus the wear resistance

nitr.

- ▲ Nitrided
- ▲ Nitriding increases wear resistance and offers low friction properties

vap.  
+  
nitr.

- ▲ Vaporized + Nitrated
- ▲ Combination of increased surface hardness and lubricant carrier

TiN

- ▲ TiN coating
- ▲ Maximum application temperature: 450 °C

TiN  
GS

- ▲ Titanium nitride low friction layer
- ▲ High wear resistance with low friction properties
- ▲ Maximum application temperature: 450 °C

TiCN

- ▲ TiCN multilayer coating
- ▲ Maximum application temperature: 450 °C

DLC

- ▲ Diamond-like carbon coating
- ▲ Specifically for machining non-ferrous metals
- ▲ Maximum application temperature: 400 °C

Ti200

- ▲ TiN coating
- ▲ Well suited for high cutting speeds during thread forming
- ▲ Maximum application temperature: 450 °C

OSM

- ▲ Hard material layer and anti-friction layer
- ▲ For use in high-strength steels

CH

- ▲ Amorphous carbon layer
- ▲ For use in non-ferrous metals or aluminum
- ▲ Reduces the material adhesion

HCr

- ▲ Hard chromed
- ▲ For use in non-ferrous metals or aluminum
- ▲ Very low surface roughness

CrN

- ▲ Chromium-nitrogen coating
- ▲ Very wear-resistant coating
- ▲ Especially suitable for use in aluminum, but also for P, M and S materials

AlTiN-  
HD

- ▲ AlTiN-based nanolayer hard material coating
- ▲ Maximum application temperature: 500 °C

